



# THE PREVENTIVE MAINTENANCE MONTHLY

ISSUE 585 AUG 2001



## WHEELED VEHICLES

M1089 Wrecker Winch Switches  
HMMWV Power Switches  
5-ton Wrecker Towing Update  
PLS, HEMTT Bushing Wear  
HEMTT Aviation Fuel Tanker Strainers  
7-ton Trestles  
Tactical Vehicle Fording  
Truck Exhaust Pipe Paint  
Small Trailer Hydraulic Brakes  
M1747 Semitrailer Axle Hubs  
M1000 Semitrailer Tires  
M373A2 Semitrailer Landing Legs  
M900-Series Fuel Tanker Axle Seals

2

2  
3  
4  
5  
6-7  
7  
8  
8  
9  
10  
10  
11  
11



## AVIATION

35

AN/TPN-18/18A Radar Dehydrators 35  
AN/TPN-18A Radar Packing and Storage 36  
AH-64A/D Storage Bay Moisture 37  
HGU-56/P AHHS Helmet 38-41



## MISSILES

42

MLRS Launcher Lubing 42-43  
MLRS Boom Manual Control Remote 44-45  
Avenger Missile System Seat Cushion Fix 45



## SMALL ARMS

46

Rifle and Machine Gun Care 46-47  
Small Arms Touchup 48  
M2 Machine Gun Sear Springs 49  
M2, M3, M296 Machine Gun Gauges 49  
M16-Series Rifle, M4/M4A1 Carbine Sights 50-51



## NBC

52

M17-Series Decon Safety Tips 52



## COMMUNICATIONS

53

2-KW Generator Spark Arrestors 53  
60-KW TQG Fuel Drains 54  
MSE Shelter Batteries 55  
Vehicular Antenna Tiedown Guidelines 56-57



## COMBAT ENGINEERING

22

D7G Tractor PM  
130G Grader Cylinder Hose and Pulley Lube  
SEE Shutdown Procedure  
M9 ACE Engine Fire Prevention

22-23  
24  
25  
26



## LOGISTICS MANAGEMENT

58

FED LOG AMDF Data Challenges 58-59  
Army Electronic Product Support (AEPS) 60

You are invited to send PS your ideas for improving maintenance procedures, questions on maintenance and supply problems and questions or comments on material published in PS.

Just write to:

MSG Half-Mast

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USAMC-LOGSA (AMXLS-LP)  
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Redstone Arsenal, AL 35898-5000

Or e-mail to:

psmag@logsa.army.mil

Internet address:

<http://www.logsa.army.mil/psmag/pshome.html>

By order of the Secretary of the Army:

**ERIC K. SHINSEKI**

General, United States Army Chief of Staff

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Administrative Assistant to the Secretary of the Army  
0116406

PS, The Preventive Maintenance Monthly (ISSN 0475-2953) is published monthly by the Department of the Army, Redstone Arsenal, AL 35898-5000. Periodical postage is paid at the Huntsville, AL post office and at additional mailing offices.

Postmaster: Send address changes to PS, The Preventive Maintenance Monthly, USAMC-LOGSA (AMXLS-LP), 5307 Sparkman Circle, Redstone Arsenal, AL 35898-5000.

# THE AGONY OF THE FEET!



**FEET BREAK LEVERS,  
CRACK DIALS, BUST  
LINES, AND MAKE  
EQUIPMENT NMC!**

**BEND YOUR BACK AND USE YOUR HAND.**

Issue 585

# PS

August  
2001

## THE PREVENTIVE MAINTENANCE MONTHLY

TB 43-PS-585

Approved for  
Public Release;  
Distribution is  
Unlimited



D-DID  
YOU HEAR  
ABOUT THE  
G-GHOST  
IN THIS  
MOTOR  
POOL?

THE ONLY  
GHOST HERE  
IS THE SPIRIT  
OF POOR  
SAFETY  
PRACTICE!



# Don't Forget the 'T' in OJT

DIDJA HEAR  
THE ONE  
ABOUT THE  
SOLDIER AIRING  
UP THE TIRE...



O'r Half-Mast heard a horror story the other day when a PS staffer returned from TDY.

He said he'd seen a soldier standing on top of a splitting wheel, pumping air into a tire. Turns out the young soldier (hope he's around long enough to become an old one) had been drafted for the job because the trained tire man was busy elsewhere.

Now, there's nothing wrong with a TAMMS clerk changing a tire, or an infantryman applying some CARC paint. It happens all the time.

But there is something wrong when a maintenance supervisor responsible for a soldier's well-being doesn't give him the training, tools or supervision he needs to do a job correctly and safely.

If that soldier doesn't know a split ring wheel can blow apart and injure him, he won't put it into a tire cage to air it up. If he doesn't know that paint fumes are dangerous in a closed-in room, he won't go looking for the respirator he needs to protect his lungs.

The lesson to be learned, maintenance leaders, is that on-the-job-training (OJT) is fine. Just don't forget what the "T" stands for!

PS

THE  
PREVENTIVE  
MAINTENANCE  
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Small Trailer Hydraulic Brakes  
M747 Semitrailer Axle Hubs  
M1000 Semitrailer Tires  
M373A2 Semitrailer Landing Legs  
M900-Series Fuel Tanker Axle Seals



## COMBAT VEHICLES

M1A2 Tank LRU Packing  
M1-Series Tank Knee Guard Lock Assembly  
M1A1/A2 Tank M48 NBC Filters  
M1-Series Tank Grill Door Bolts  
M1-Series Tank Cushioning Pads  
M1-Series Tank Knee Switch  
M1-Series Tank TRU Cooling  
M2/M3-Series Bradley Night Sight Cables  
M198, M119A1 Howitzer GDU Cables  
M88A1 Recovery Vehicle Engine Grille Plates  
M109A6 Paladin Stowage Baskets  
M113-Series FOV Engine Access Covers



## COMBAT ENGINEERING

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SEE Shutdown Procedure  
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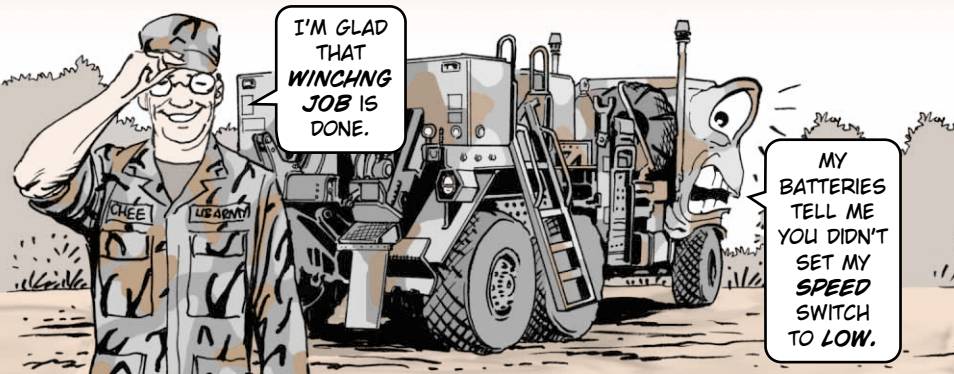
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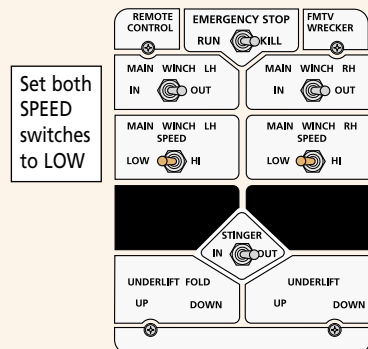
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# Move Switches to Save Batteries

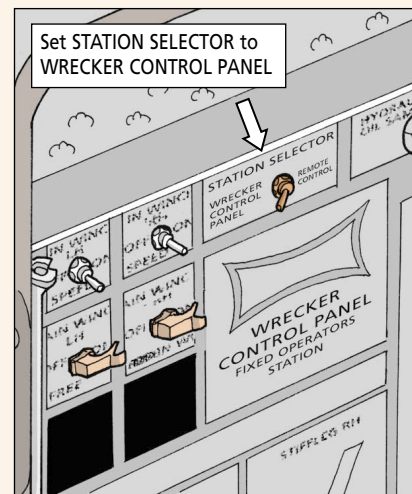


When you've finished winching operations with your M1089 wrecker, make sure the batteries don't run down before your next mission.

Both main winch speed switches on the remote control panel must be set to **LOW** at shutdown. And the **STATION**



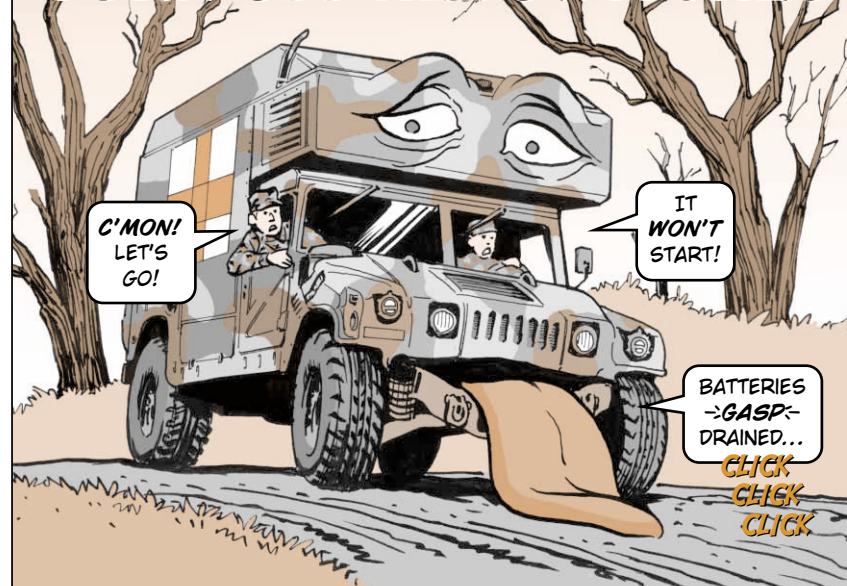
**SELECTOR** switch on the fixed control panel must also be set to **WRECKER CONTROL PANEL**. TM 9-2320-366-10-2 fails to mention either setting.



If you leave the speed switches set to **HI** and the selector switch set to **REMOTE CONTROL**, battery power continues to go to the remote control panel. That can kill your vehicle's batteries.

Until the TM is updated, note this information and save some battery money and slaving time.

# TURN OFF ALL SWITCHES



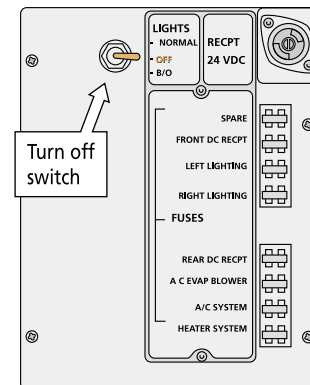
**S**pecial equipment mounted in or on your HMMWV—like a rear-mounted radio, a ammo shelter, an ambulance body or an arctic personnel shelter—often draws electricity directly from the truck's batteries.

That means turning off the master switch on the dashboard does **not** turn off the battery power to the equipment in back.

So make sure **all** electrical switches in the vehicle are off before you leave the truck. If you don't know where all of them are located, get a medic or specialist to show you what to look for.

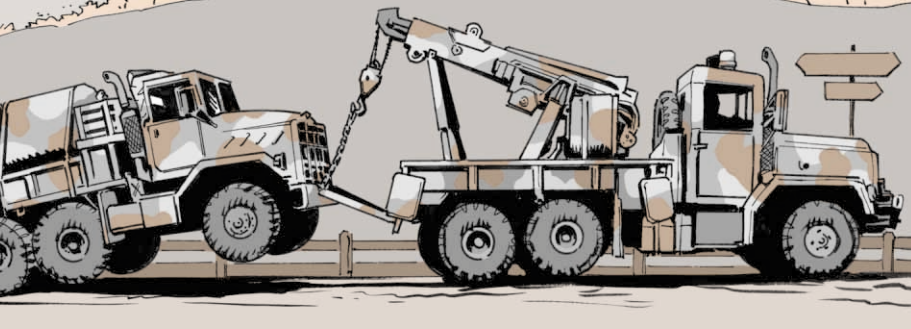
If a switch is left on, power will continue to drain from the batteries. You could be left with no power to start your truck.

One battery drain often forgotten is the white lights in the ambulance. Its switch has three positions and only one ensures that no lights come on when the doors are opened or closed. It's marked **OFF**.





# TOWING UPDATE



Towing other 5-ton vehicles with 5-ton wreckers has always been a touchy task. It requires skill and attention to detail—and new information.

The chart below corrects what was printed in PS 455 (Oct 90) and issued as a field message in early 1990.

## Lift Towing

NOTE THAT **NO** 5-TON WRECKER CAN LIFT OR TOW ANOTHER 5-TON WRECKER.



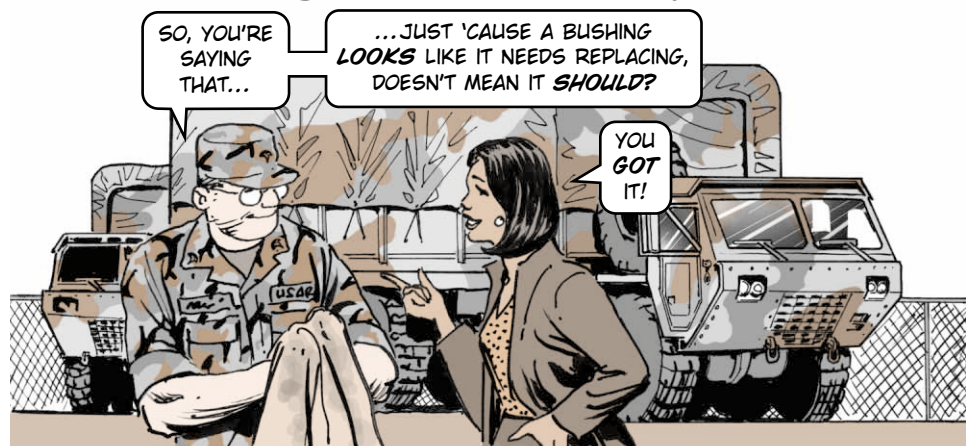
Disabled 5-tonner (without payload)	Tow with Wrecker?		
	M936/A1/A2	M816	M543A2
M923, M925, M927, M928, M929, M930, M931, M932, M935	Yes	Yes	No
M934, M936	No*	No*	No*
M813/A1, M818	Yes	Yes	Yes
M814, M815, M817, M816	Yes	Yes	No
M819, M820/A1/A2, M821	No*	No*	No*
M543A2	No*	No*	No*

\*The M984E1 HEMTT wrecker recovers these vehicles.

The maximum speed limit when towing a 5-ton vehicle is 35 mph on the highway and 15 mph for cross-country.

All 5-ton wreckers can pintle tow most 5-ton trucks without a payload. But no 5-ton wrecker can tow a van that is carrying its maximum payload of 15,000 lbs. The maximum speed limit for pintle towing is 35 mph on the highway and 15 mph for cross-country.

## Bushings Worn? Maybe Not

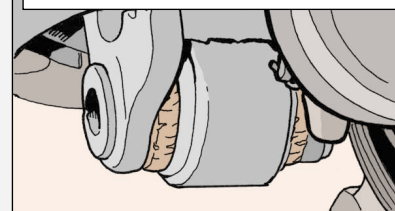


**M**echanics for PLS tractors and HEMTTs, take note: Cracked or wrinkled paint alone does not identify equalizer beam bushing wear. Neither does a minor cut or two.

Yet many PLS tractors and HEMTTs wind up job-ordered to support for equalizer beam (walker beam) bushing replacement because of paint cracks and wrinkles, or minor cuts and gouges.

Cracked or wrinkled paint can make bushings look like they're dry rotted when they're not. Cuts and gouges can make them look ready for the scrap heap when they're really OK.

Paint cracks, wrinkles, minor cuts are OK...

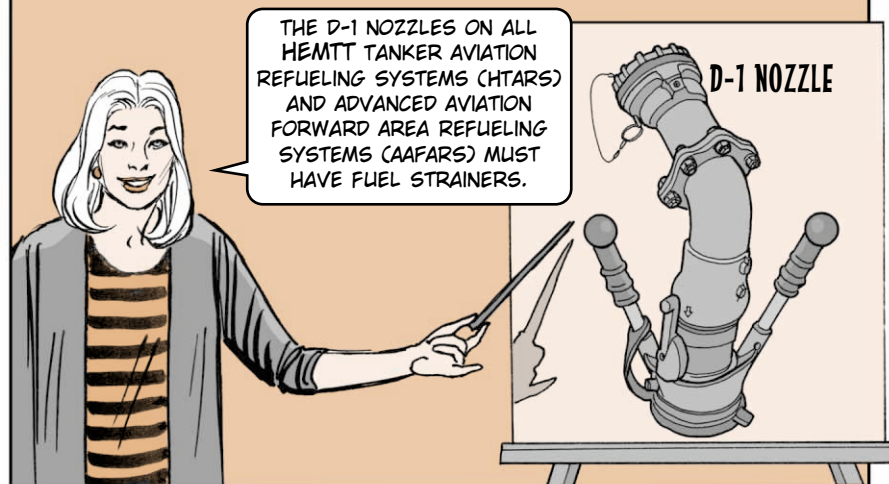


...but movement or wallowing is not OK



But never send your PLS tractors or HEMTTs to support for bushing replacement unless you detect movement in the bushings. If they are turning (look for signs of movement against the beam bore) or wallowing (the bushing is narrower in some spots than others), they're shot. Otherwise, keep on truckin'.

# D-1 NOZZLE STRAINER CHECK



If they don't, a stuck shut-off valve could soak you in fuel or, much worse, cause a fire. Some D-1 nozzles made by Carter Ground Fueling Co. may not have the strainer, which is necessary to prevent fuel debris from lodging in the shut-off valves or getting into the aircraft.

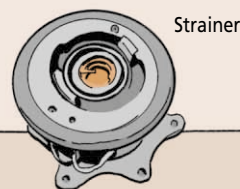


MAKE SURE I'M NOT MISSING, TORN OR DAMAGED!

TACOM Safety-of-Use Message 00-021 has the details on the nozzle problem. You can identify the nozzle by the name "CARTER" cast into the nozzle's collar and body.



If your AAFARS uses a Carter nozzle, remove it and look for the strainer. If the strainer is present and not torn or obstructed, clean it and reinstall the nozzle. If the strainer is missing, torn or damaged, replace it with part number (PN) 47115-100.



If your HTARS uses a Carter nozzle, remove it and check the strainer. If it's present and not torn or obstructed, clean it and reinstall the nozzle. If the strainer is missing, install a new non-valved unisex coupling, PN 64019CN, that will accept a strainer.

Strainer torn or damaged



Some early versions of the nozzle fielded with the HTARS contained a unisex coupling that was not machined to accept the strainer. Later versions were machined. It is critical that the right coupling is in place to accept the strainer.

If the strainer is torn or damaged, replace it with PN 47115-100. Dispose of the bad strainer.

You must order replacement parts directly from Carter. The telephone number is (949) 764-2308, fax (949) 631-2673, e-mail [enelson@jccarter.com](mailto:enelson@jccarter.com). The mailing address is:

Carter Ground Fueling Co.  
671 W. Seventeenth St  
Costa Mesa, CA 92627-3605

Tools . . .

## UNSAFE TRESTLES GOTTA GO!



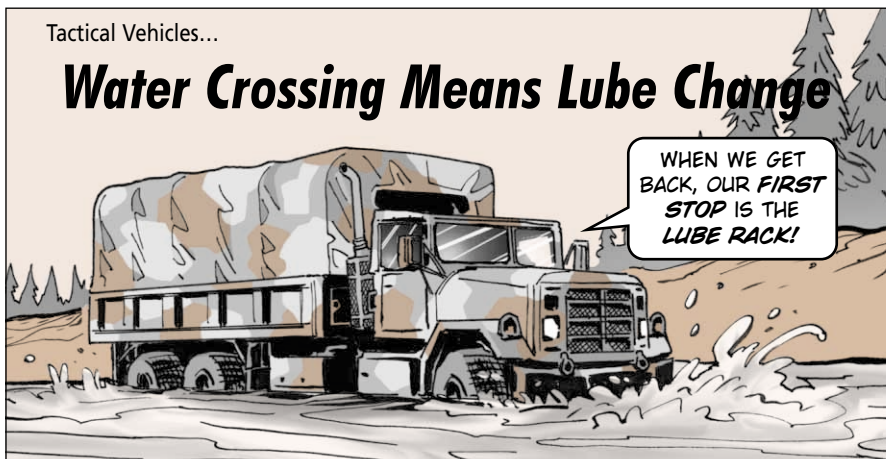
If your unit's 7-ton trestles, NSN 4910-00-251-8013, have a data plate that shows a manufacturer **other than** Lincoln, or if they do **not** have a data plate at all, they must be removed from service and destroyed.

Defective trestles should be destroyed by crushing, cutting or any other method that makes them unserviceable and unreparable.

AMCCOM Safety-of-Use Message (SOU), AMSMC-MA 092030Z Oct 87, has the scoop. You can get a copy of this SOUM from the TACOM-RI manager at DSN 793-1997, (309) 782-1997, or via e-mail at [MaytasB@ria.army.mil](mailto:MaytasB@ria.army.mil). You may also write to Half-Mast.



## Water Crossing Means Lube Change



**W**ater and oil don't mix.

Keep those words in mind when you ford a hub-deep stream with hot axle housings.

Water will cool hot metal and create a vacuum inside those housings. The vacuum draws water past the axle seals and into the gear oil. Water-contaminated oil is a poor lubricant, so gears wear and fail.

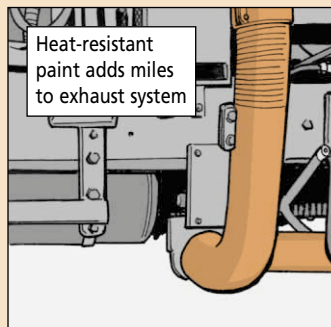
Contamination can happen whether you ford a stream or just drive through hub-deep water. So how can you know for sure that water has been sucked into the axle housing? You can't. The point is that you should take no chances on ruining differential gears. After a run through water, remember that your mechanic has a lube job to do when you get back to the motor pool.

## FIGHT BACK RUSTY PIPES

**H**eat and weather are double trouble for unpainted truck exhaust pipes. Rust sets in and, before you know it, you've got an exhaust leak, making your vehicle NMC.

You mechanics can stop rust with a protective coating of heat-resistant paint. It takes the heat, protects against weather damage, and adds miles to the truck's exhaust system.

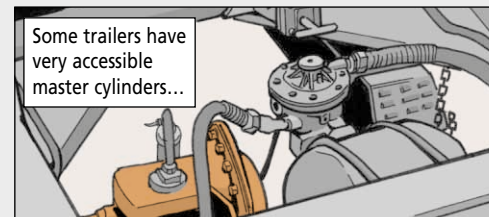
NSN 8010-00-616-4009 gets a 1-gal bucket of olive drab paint. Use NSN 8010-01-478-0496 for a gallon of desert tan paint.



## OH, SAY CAN YOU SEE...

... the master cylinder on your small trailer with hydraulic brakes? If your answer is yes—even though you have to crawl underneath the trailer to see it—that's good.

At least you know that some trailers, like the 1½-ton models, have master cylinders under the box. Other trailers, like the M149-series water trailers, have master cylinders located out in the open, right behind the lunette.

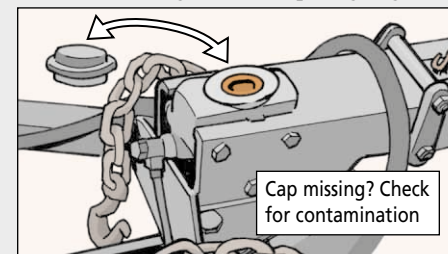
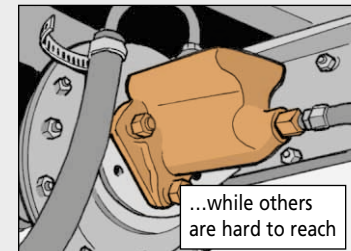


Now, since you can see one master cylinder while standing up, that one may get a maintenance check every now and then. But when was the last time you pulled PMCS on that out-of-the-way component, the one you've got to get down and dirty to maintain?

Too many trailers have master cylinders that are filled with water or rust instead of brake fluid. It's a sure sign that PMCS is not being done. It's also proof that your trailer's brakes are not going to do their job.

So grab your trailer TM, pinpoint the location of the master cylinder (usually mounted on the frame next to the curbside wheel), and give it a complete going-over. Check for water and rust. If you find either, get your mechanic on the job. He's got some draining and cleanup to do.

If your cylinder is simply a little short on fluid, make sure it's added while you're thinking about it—because the master cylinder is out of sight and often out of mind.



## Matching Hub Info

YOU MEAN BECAUSE A HUB ON THE OTHER SIDE OF THIS AXLE IS BAD, I'VE GOT TO GO, TOO?

YEP.

**M**echanics, hubs for early model M747 semitrailers (serial numbers 1-200) are no longer available.

If a hub goes bad, you have to order two complete new hub and wheel assemblies—one for each side of the axle.

You can't run the old wheel and hub assembly on the same axle with the new one. They are not the same size. But you can run both types on the same trailer.

The new hub is the B type used on M747s serial numbered 201 and higher.

OTHER PARTS—  
BEARINGS,  
SEALS AND  
BRAKE PARTS—  
ARE THE SAME  
FOR BOTH  
WHEEL DRUMS.

ITEM	QTY per axle	NSN
Hub	2	3040-00-351-2581
Brake drum	2	2530-00-319-5720
Wheel stud	20	5306-01-014-7481
Lug nut	20	5310-00-538-0800
Wheel Assembly	4	2530-00-355-7763

## M1000 Semitrailer Tire

**T**he only tested, approved and authorized tire for the M1000 semitrailer is Michelin LT215/75R17.50 P-metric radial, NSN 2610-01-323-4813, load range H. This tire rated best for off-road **and** highway use in TACOM tests.

## SHORT LEGS MUST BE BLOCKED

GOTTA BLOCK THOSE **SHORT LEGS** BEFORE DROPPING THIS TRAILER.

**P**ulling an M373A2 electronics semitrailer behind an M931-series tractor or an M1088 FMTV tractor is no problem at all. But hooking up to one, or unhooking from one, can be a big problem.

Both the M931 and the M1088 tractors are tall at the fifth wheel—tall enough that the landing legs of the M373A2 don't touch the ground even when they're fully extended.

Unless you block underneath the legs, that trailer is going to drop when you pull out from under it. The drop can damage the legs, or maybe even cause them to collapse. Even if neither of those things happen, you're still going to have it tough trying to hook up to the trailer next time.

Block the landing legs solidly so there's no problem pulling out from under the trailer or backing under the trailer.

## Tanker Axle Seal Changes

**N**ote these axle seal changes for M900-series tanker trailers in Fig 32 of TM 9-2330-356-24P. Item 8, axle seal, can be ordered three different ways.

NSN 5330-01-101-4854—seal without wear ring (part number K24HH100)

NSN 5330-00-933-4198—seal with wear ring (PN 320-2173 for seal and PN 315-1503 for wear ring)

NSN 5330-01-417-5137—seal kit (PN 372-7091) that contains the seal along with many others used on these tankers.



# Pack LRUs

# Right and Tight

IS THAT OUR  
NEW LRU? I  
CAN'T BELIEVE  
THEY SENT IT  
TO US LIKE  
THAT!!

ACTUALLY,  
THIS IS THE  
OLD ONE YOU  
SENT FOR  
REPAIR!  
IT WAS  
RETURNED!

When you mechanics take delivery of a new line replaceable unit (LRU) for an M1A2 tank, you don't expect to receive it in a flimsy cardboard box, do you?

If it came like that, you'd probably just be shipping it back as damaged goods. LRUs should **always** arrive in their shipping containers to help prevent damage.

Guess what? That's also true for damaged LRUs that **you** ship back for repair. If you don't pack 'em in their original or new shipping containers, they may not get where they're going at all. Those that do are damaged even further. What was once a repairable LRU is then just an expensive piece of junk.

When you get a new or repaired LRU, always keep the container. You'll need it if the LRU ever has to go back for repairs.

If you're missing a container, don't just make do with whatever you can find. Order a new container before trying to ship out an LRU. Here are the M1A2 tank LRUs and their containers:

LRU	LRU NSN	Container NSN 8145-01-
Mounting housing assembly	7025-01-472-3047	469-7887
Commander's display unit	1290-01-472-1851	469-2139
Commander's electronic unit	1220-01-477-8943	469-2140
Turret mission processing unit	1270-01-464-3971	469-2140
Fire control electronic unit	1220-01-455-2119	385-4122
Gunner's primary sight	1240-01-461-2659	468-8245
Dual access head assembly	1240-01-457-1698	476-4131
Thermal receiver unit	5855-01-463-5832	468-8242
Commander's independent thermal viewer	5855-01-462-4258	472-7327
Driver's integrated display	5980-01-471-6068	374-9927
Hull power distribution unit	6110-01-460-9077	374-9926

WAIT!  
COME  
BACK!

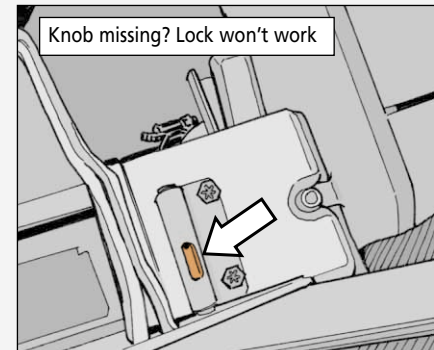
SORRY,  
BUB! I'M  
OUTTA  
HERE!

## NEED

The tank commander's knee guard is there to protect him from spent shell casings. But it can't do its job if the guard's lock assembly, NSN 5340-01-428-7658, is broken.

The lock assembly has a screw-in knob that's used to slide the locking pin back and forth. When the knob vibrates loose or snaps off, you can't lock the knee guard.

## A NEW KNOB?



The knob isn't listed in the -24P-2 TMs, so most units order a new \$60 lock assembly. But you can still get the knob with NSN 5355-01-184-1680 for about \$3.50.

Keep the new knob on the job by coating its threads with a dab of sealing compound, NSN 8030-01-158-6070, before screwing it back in place. Then keep an eye on the knob to make sure it stays put.

# Snuff Out Filter Fires

I SHUT DOWN AND CALLED YOU AS SOON AS WE GOT A **FILTER CLOGGED** NBC WARNING LIGHT.

SMART MOVE. YOU MAY HAVE PREVENTED AN NBC FILTER FIRE!

Overheating is the main cause of M48 NBC filter fires on your M1A1/A2 tank. But you can prevent that overheating by watching for these warning signs:

- ❑ Low or no air flow at the NBC hose sockets or bulk dump.

- ❑ Air that does not get colder when the AIR TEMP control knob is turned to the full COOLER position.

NBC filters can overheat and burn

- ❑ The OVERHEAT SPONSON IN, OVERHEAT SPONSON OUT, or FILTER CLOGGED warning lights come on.

Air should get colder in full COOLER position

Watch for these warning lights

If any of these things happen, the filters can catch fire unless you shut down the main NBC system immediately.

If you need clean air, activate the backup NBC system. While the backup system doesn't provide cooled air, it does give you filtered air from outside the tank.

# GREAT GRATE SOLUTION

CLANG

OH, NO! THERE GOES **ANOTHER** ENGINE GRILLE GRATE!

CLANG!

That's the all-too-familiar sound of the grille door grates falling off the back of your tank when the grate bolts vibrate loose.

And it's a sound you don't have to hear anymore—if you get your mechanic to add key washers, NSN 5310-00-824-5474, to the grate bolts.

The key washers wrap around the bolt head and the grate clamp to keep the bolt from vibrating loose.

Key washer keeps bolt in place

## Patch Problem Pads

The two cushioning pads, NSN 5340-01-079-3031, on each side of your tank's knee switch actuator have an important job. They keep the manual control lever from activating the switch and opening the ammo doors until the loader presses against it.

Trouble is, the pads are held in place with adhesive, so they can be knocked loose or fall off on their own.

Keep a close eye on the pads. If they start to loosen, apply new adhesive, NSN 8040-00-880-7332, to keep 'em in place. Use dry cleaning solvent, NSN 6850-00-285-8011, to clean the old adhesive off the actuator bracket first. That allows the pads to adhere tightly.

Adhesive won't hold pads for long



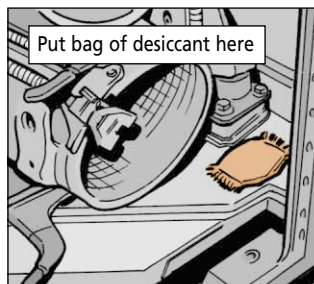
## IT'S THE HUMIDITY

**H**umidity in the ammo compartment will rust and corrode onboard ammo, whether your tank stays uploaded all the time or only during exercises.

Sure, you can slow the damage by occasionally wiping out any condensation in the ammo compartment. But to really put the brakes to corrosion, you've got to stop moisture.

A few bags of desiccant will do the trick. Just open each ammo door and put a bag on the floor between the ammo tube and the compartment wall. NSN 6850-00-264-6571 gets a drum of 300 bags of desiccant.

When it's time to pull PMCS on the hull ammo compartment, check the desiccant bags.



IF THEY'RE **MOIST** TO THE TOUCH OR IF THE COMPARTMENT WALLS ARE **WET**, IT'S TIME FOR **NEW DESICCANT**.



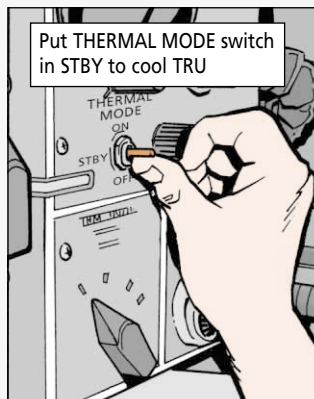
## Standby for Cooling

**T**he T in TRU stands for thermal, gunners. And that means heat—in more ways than one.

During those blistering hot summer days, the thermal receiver unit (TRU) on the gunner's primary sight has trouble coping with the heat. If it's left on too long, it burns out. Replacing it sets your unit back more than \$77,000!

When it's on, the TRU cools itself only when in standby mode. So make a habit of flipping the THERMAL MODE switch to STBY when the TRU is not in use. If the TRU won't be used for some time, flip the switch to OFF.

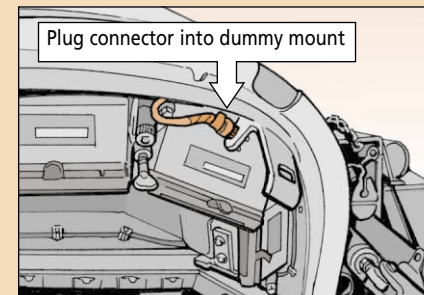
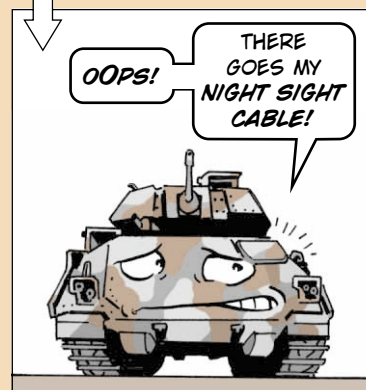
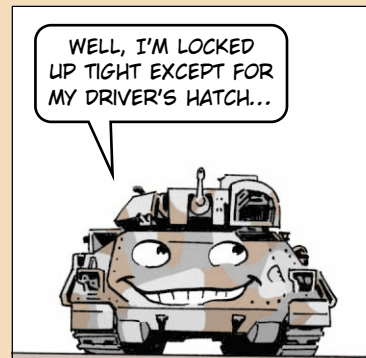
Your TRU will stay cooler and you can put your maintenance bucks to better use.



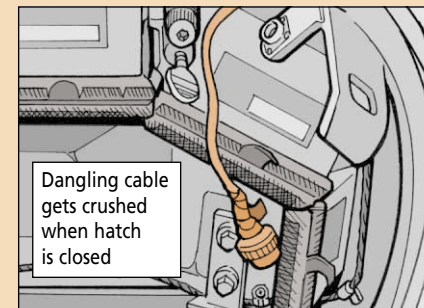
## Stop Crushing Cable

**D**rivers, the job's not finished when you remove and lock up your Bradley's IR night sight after every operation.

You still need to hook the 1W17P10 night sight cable, NSN 5995-01-271-0367, to the dummy mount on the hatch.

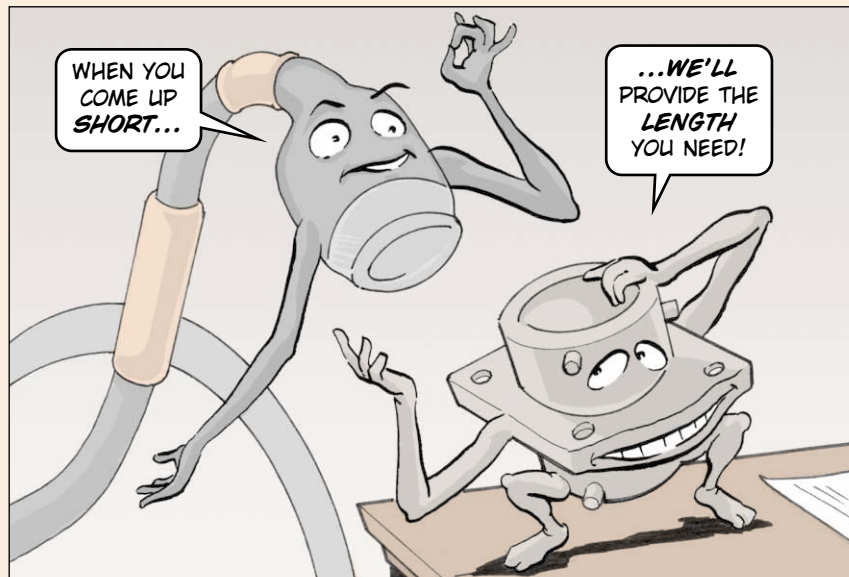


Otherwise, the cable is left dangling. When the hatch is closed, the cable connector gets crushed.



If you **do** forget and the cable connector is ruined, make sure you get DS to replace it with NSN 5935-01-132-1570. That'll save your unit more than \$200 when compared to the cost of a new cable.

# Length Counts for GDU Cables



Dear Editor,

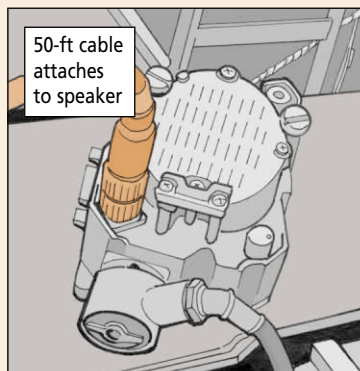
Units are having cable problems when they use the AN/GYK-29(V) gun display unit (GDU) with M198 and M119A1 towed howitzers.

## M198

TM 11-7440-283-12-2 doesn't list a cable long enough to run from the truck's SINCGARS radio to the GDU when it's mounted on the trails.

Order the cable you need with NSN 5995-01-358-1078. This 50-ft speaker cable connects the radio in your truck to the speaker mounted on the M198.

Then connect the speaker to the GDU using a W33A cable, NSN 5995-01-128-6425. That setup lets you receive fire missions digitally from the fire direction center as long as your radio is in single-channel plain text mode.



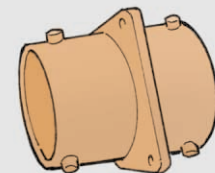
## M119A1

The section chief can't keep the section chief assembly (SCA) with him while verifying data on the M119A1 because the 15-ft SCA cable is too short.

But you can fix this problem by connecting the two SCA cables, NSN 5995-01-128-6410, with an adapter connector, NSN 5935-00-879-8512. In most cases the newly combined 30-ft cable is long enough to work.

SFC Mark A. Lee  
2/410th FA  
Ft Knox, KY

Use adapter connector, NSN 5935-00-879-8512 to connect two SCA cables



From the desk of the Editor



I guess that's the long and short of it! CECOM took your suggestions to heart, too. They plan to add the 50-ft cable and adapter connector NSNs to Appendix D, Additional Authorization List, of the GDU's TM 11-7440-283-12-2.

M88A1 Recovery Vehicle...

WAA! I CAN'T STOP!

WHY DIDN'T THEY BOLT DOWN MY ENGINE GRILLE PLATES?

# BOLT DOWN GRILLE PLATES

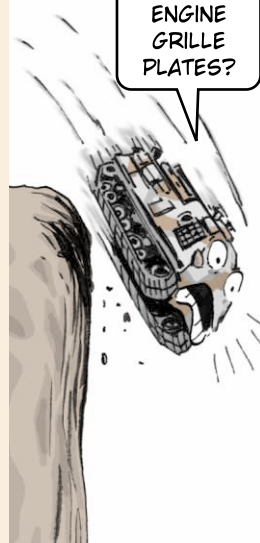
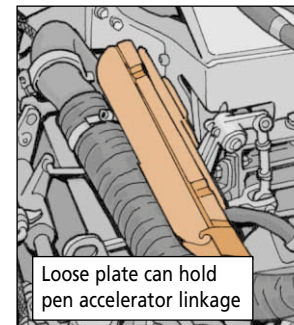
As heavy as those M88A1 engine grille plates are, you wouldn't think they'd move around very much. A lot of crewmen **must** believe that, since they're leaving the plates unbolted after their before-operation PMCS.

Despite their weight, those plates will still bounce loose and fall into the engine compartment during operation.

If you're lucky, only the engine is damaged. For an unlucky few, though, a plate will land on top of the accelerator linkage and hold it wide open.

Imagine your surprise as you let up on the gas and the vehicle doesn't slow down. Imagine your panic as you try to control several dozen tons of runaway vehicle. Imagine your funeral.

Don't take shortcuts. Always bolt down the engine grille plates before operation.



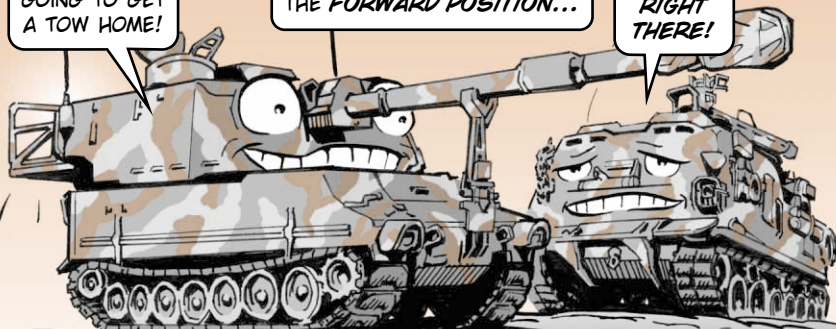


# DON'T BE A BASKET CASE

AT LAST!  
I'M FINALLY  
GOING TO GET  
A TOW HOME!

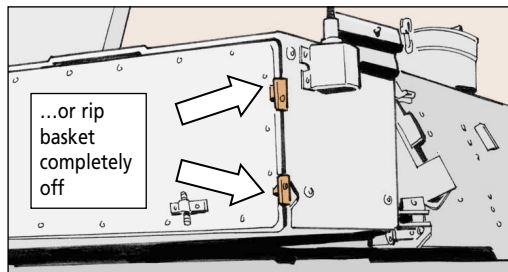
UNTIL YOUR **STOWAGE  
BASKETS** ARE MOVED TO  
THE **FORWARD POSITION...**

...YOU'RE  
STAYING  
**RIGHT  
THERE!**



**H**ow you prepare a disabled M109A6 Paladin for towing will determine the shape of its stowage baskets when you get back to the motor pool.

If the baskets are locked in the rear position and a tow bar is used, the baskets may hit the M88A1 recovery vehicle during turns. That can damage the baskets or even rip them completely loose. It doesn't do the M88A1 any good either.



So lock the baskets in the forward position to keep them out of the way during towing.

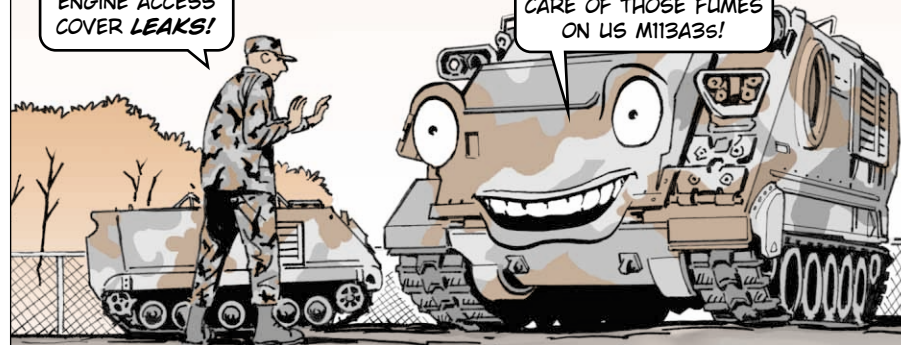
That makes the baskets the widest portion of the howitzer, so you may need to return them to the rear position when towing through a narrow area. Just remember to lock the baskets in the forward position once you're back in the open.

Any time you must tow a Paladin with the baskets in the rear position, use a ground guide to prevent damage during turns.

# Leaky Covers Not NMC

I'M NOT RIDING  
IN **THERE!** YOUR  
ENGINE ACCESS  
COVER **LEAKS!**

DON'T WORRY... THE  
**EXHAUST FAN** TAKES  
CARE OF THOSE FUMES  
ON US M113A3s!



**T**he -10 TMs say your M113-series FOV is NMC if the driver's compartment or rear compartment engine access covers are bent or have torn seals.

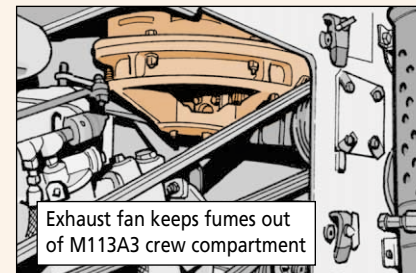
The M113A2 TM is right, but TACOM now says the M113A3 TM is wrong. The reason is the different exhaust fan used in each vehicle.

The M113A2 fan blows air **into** the engine compartment. That means a bent engine access cover or damaged seal could let harmful exhaust gases into the crew compartment.

But the M113A3 fan pulls air **out of** the engine compartment. Since exhaust gases can't get into the crew compartment, a bent access cover or damaged seal does not make the vehicle NMC.

The weekly exhaust pipe PMCS checks listed as Item 56 in TM 9-2350-261-10 and Item 59 in TM 9-2350-277-10 are still required. If any part of the exhaust pipes is missing, damaged, poorly aligned or not securely mounted, your vehicle is still NMC.

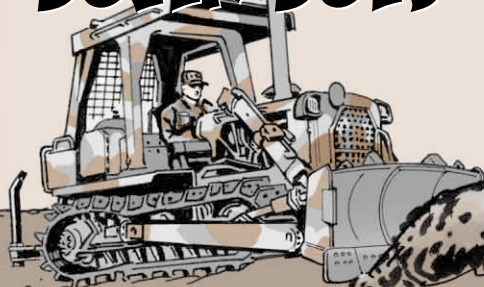
Make a note of this change to the M113A3's engine access cover PMCS until TM 9-2350-277-10 is updated.



HERE'S  
HOW TO  
DO IT!



## DOZER DOES



## DIRT, YOU DO PM!



Your D7G dozer is the Army's workhorse for moving tons of dirt. But even a Clydesdale needs a little TLC to stay mission-ready.

### Stay Level

Park on a level surface. Never park your dozer on the side of a hill overnight. Besides being unsafe, this puts a strain on the roller seals and causes them to leak. Rollers only hold a pint of oil. Without oil, the roller grinds itself up in a few hours.

Parking overnight on a hill can lead to roller seal leaks



### Keep Slave Receptacle Dry

Keep the dozer's NATO slave receptacle from becoming a water container by keeping the dust cap in place.

The receptacle faces straight up—just the right angle to hold water if the cap's missing. Once in the receptacle, water corrodes and rusts the receptacle's metal contacts. In winter, it can freeze in the receptacle, and then you can't slave start a dead vehicle. Worse, that frozen water—ice—could crack the receptacle as it expands.

So do yourself a favor and make sure the dust cap is in place and snug. If the cap and cable assembly is missing, replace it with NSN 5340-01-059-0114.

Until a new cap comes in, cover the receptacle with electrical or duct tape.

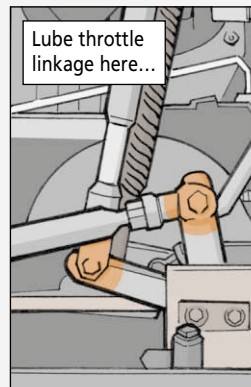
Replace a missing cap with  
NSN 5340-01-059-0114



### Put Slide Back in Linkage

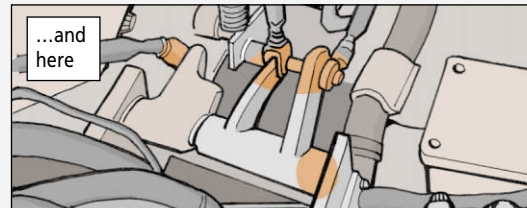
Moisture corrodes the linkage for the governor control lever (throttle) and causes it to push or pull sluggishly, erratically or not at all. A stuck lever isn't much good when you need to increase or decrease engine speed during operation.

Lube throttle linkage here...



So wipe off the throttle linkage with a brush or clean rag at every scheduled service. Then spray with a shot of lubricating spray, NSN 9150-00-458-0075. Work the throttle lever back and forth a few times. Lube puts the slide and glide back into the linkage for smooth operation of the throttle.

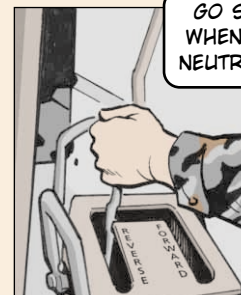
...and here



### Shifty Business

**Slow and easy** is the best way to shift the dozer from neutral to reverse. Slamming the shifter sideways from neutral, then down into reverse, will break the backup alarm's magnetic switch. A busted switch means the backup alarm won't sound off in reverse. Then the dozer is NMC.

GO SLOW AND EASY  
WHEN SHIFTING FROM  
NEUTRAL TO REVERSE!





# SMALL THINGS MATTER

**I**t's a big rig, but small things can stop it from moving tons of dirt. So here are two PM pointers you can use to keep your grader working.

## Stop Cylinder Hose Rub

Hydraulic hoses that cross over the grader's centershift cylinder get a raw deal. The hoses rub against the cylinder when the blade's circle is raised, lowered or rotated. All that rubbing can wear holes in the hoses.

Holes let fluid leak, then there's not enough hydraulic pressure to operate the blade's circle. Construction operations come to a halt.

So, eyeball the hoses for wear marks. See any? If so, loosen the clamp where the hoses are mounted on the cylinder. Then reposition the hoses out of harm's way and tighten the clamp.

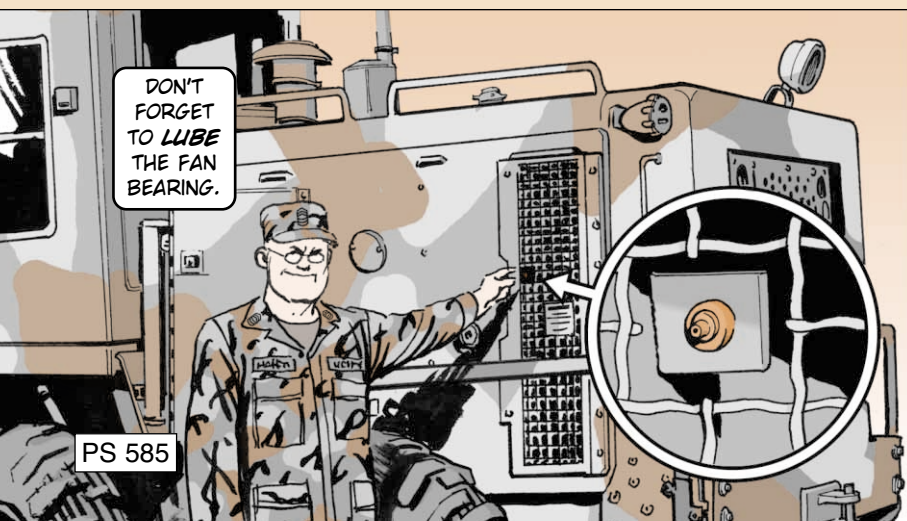


## Pulley Lubing

The grease fitting for the grader's fan bearing is behind the engine's screen door on the vehicle's roadside.

Without lube, the bearing seizes up. Then the blade stops turning, letting the engine and transmission overheat.

So keep the fan pulley bearings lubed. During scheduled services, give the fitting four to five shots of grease.



PS 585

# Lowdown on Shutdown

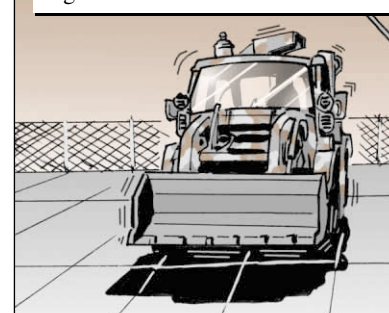
**W**hen it's time to shut down your excavator for the day, make sure you shut down exactly the way it says on Page 2-85 of TM 5-2420-224-10. Doing it wrong can cost your unit some \$300 for a new generator.

The right procedure is simple:

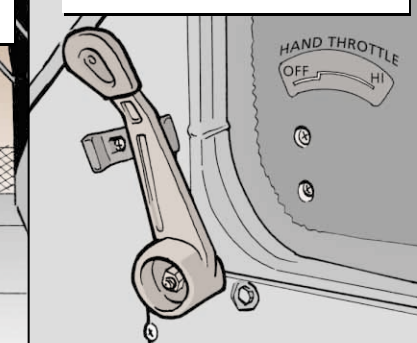
LET'S SEE...  
IDLE, THROTTLE,  
IGNITION, KEY.



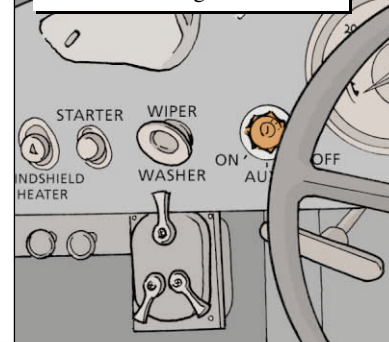
**1.** Park the excavator and let the engine idle for 5 minutes.



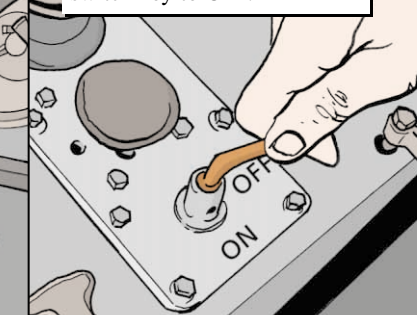
**2.** Move the throttle lever to OFF.



**3.** Turn off the ignition switch.



**4.** Turn the master disconnect switch key to OFF.



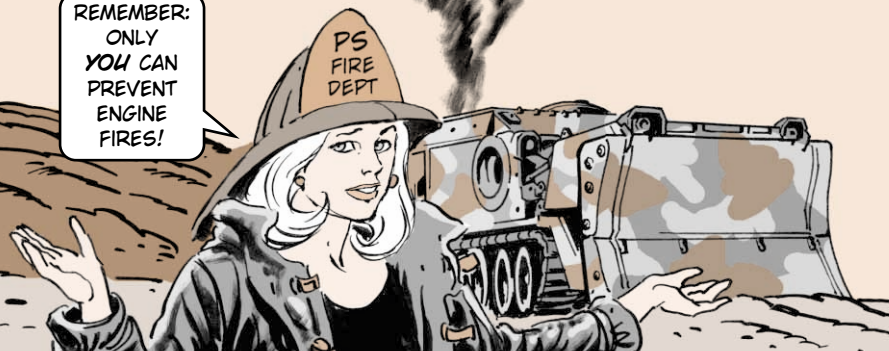
Never turn off the master disconnect switch key or the ignition switch before setting the throttle to OFF.

If you don't shut off the fuel first, the generator will build up a load beyond its capacity and burn out.



# Practice Fire Prevention

REMEMBER:  
ONLY  
YOU CAN  
PREVENT  
ENGINE  
FIRES!



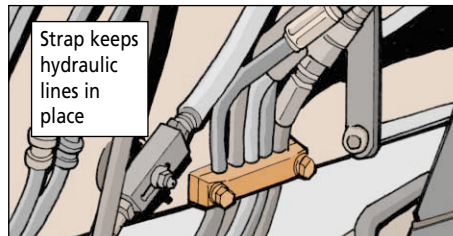
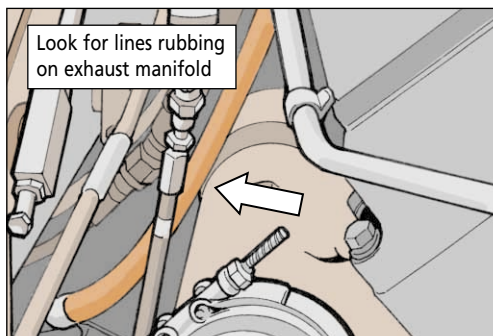
An ounce of fire prevention is worth a pound of fire fighting in your earthmover's engine compartment.

Start the prevention by checking the five hydraulic lines that are mounted directly across from the engine's exhaust manifold.

Each line is held in place by a retaining strap that keeps it snug against the wall.

But, straps get misplaced when a hydraulic line is repaired, or when the engine is removed by support. It makes no difference. Operating the earthmover when a strap is missing allows those hydraulic lines to rub up against the engine's exhaust manifold. That can cause a leak—and a fire.

So have your mechanic replace a missing retainer strap with NSN 5340-01-179-7530, or secure the lines with a tie-down strap, NSN 5975-00-570-9598, until the retainer strap is replaced. Straps are shown as Item 40 in Fig 140 of TM 5-2350-262-24P.

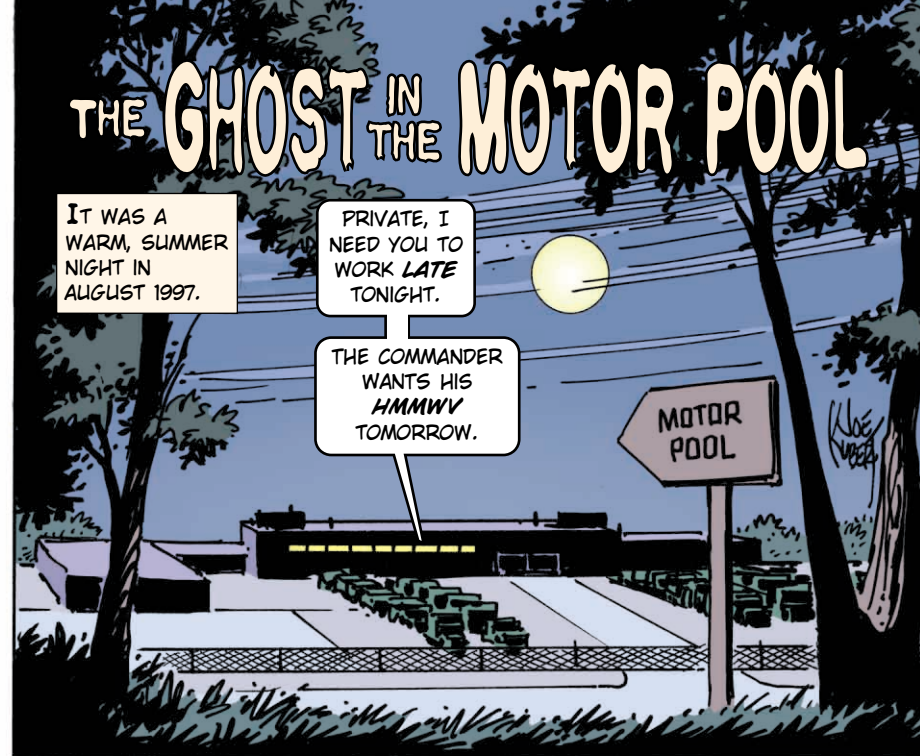


# THE GHOST IN THE MOTOR POOL

IT WAS A  
WARM, SUMMER  
NIGHT IN  
AUGUST 1997.

PRIVATE, I  
NEED YOU TO  
WORK LATE  
TONIGHT.

THE COMMANDER  
WANTS HIS  
HMMVV  
TOMORROW.

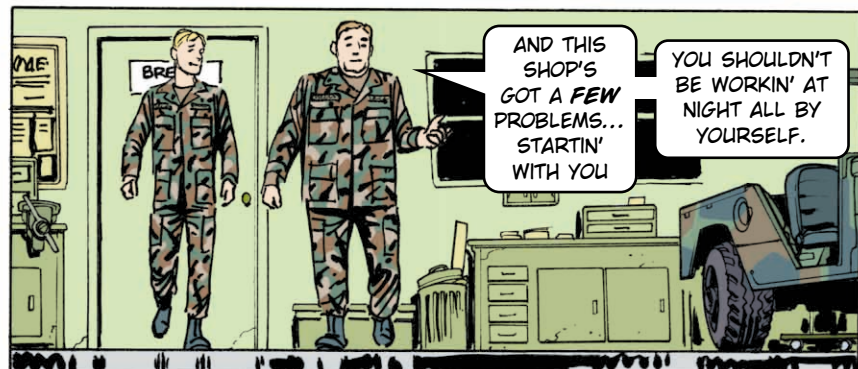
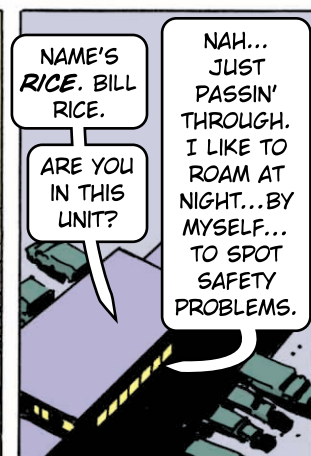
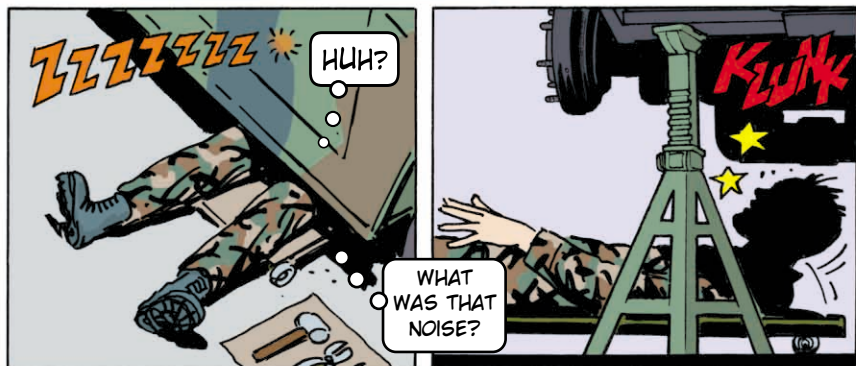


BUT  
SERGEANT  
...

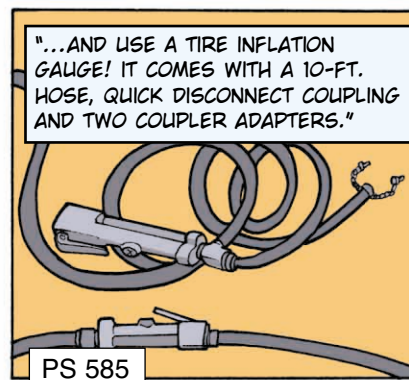
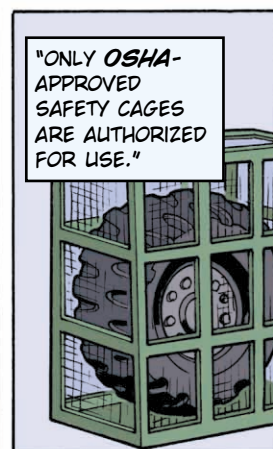
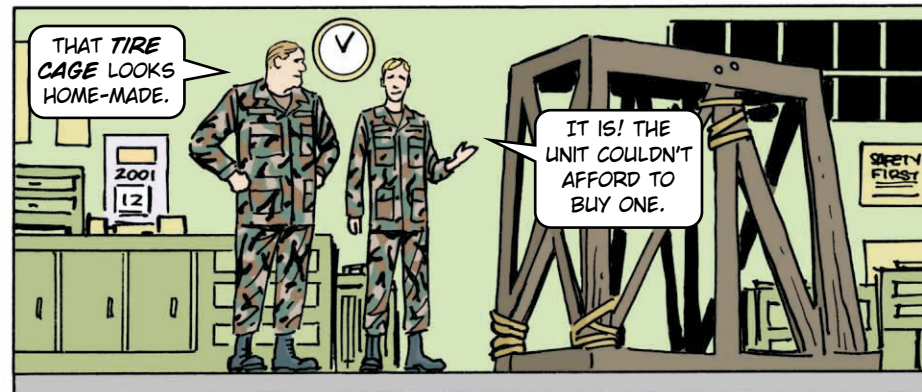
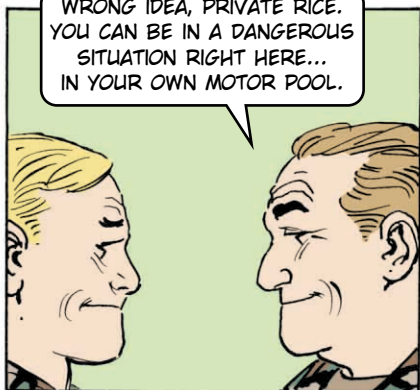
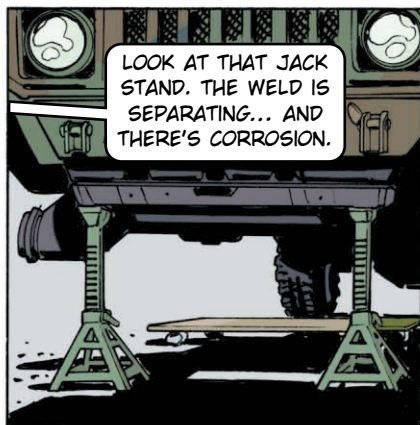
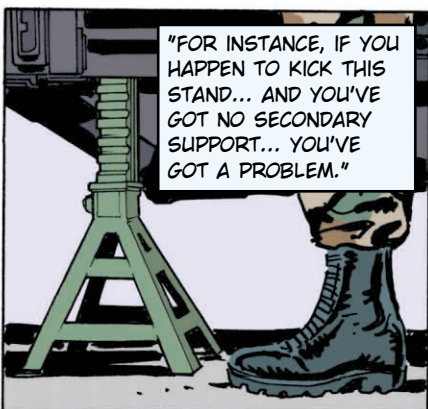
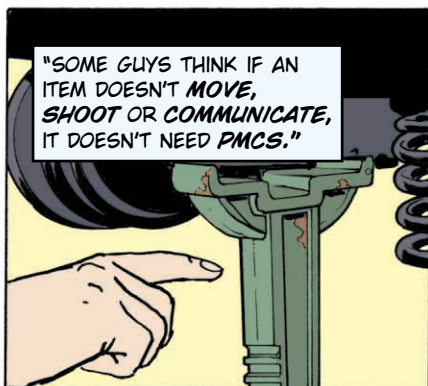
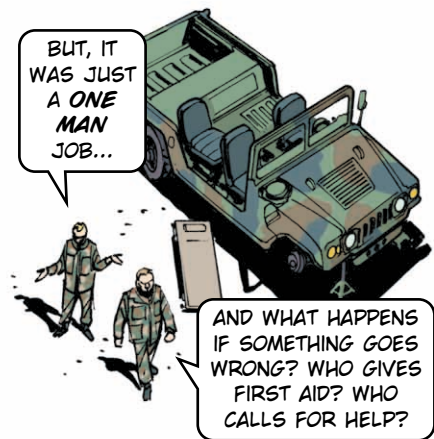
YOU KNOW  
HOW IT IS  
AT THIS  
UNIT—WE  
STAY UNTIL  
THE WORK  
IS DONE.



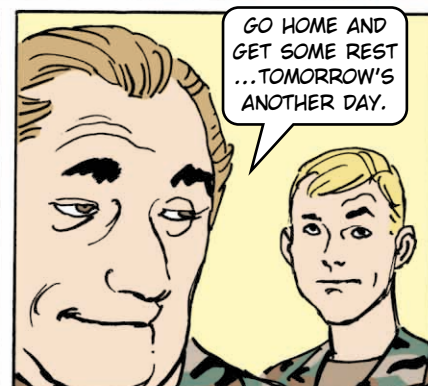
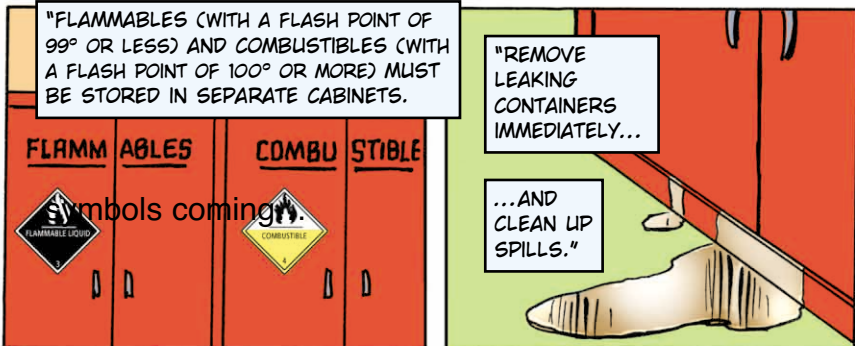
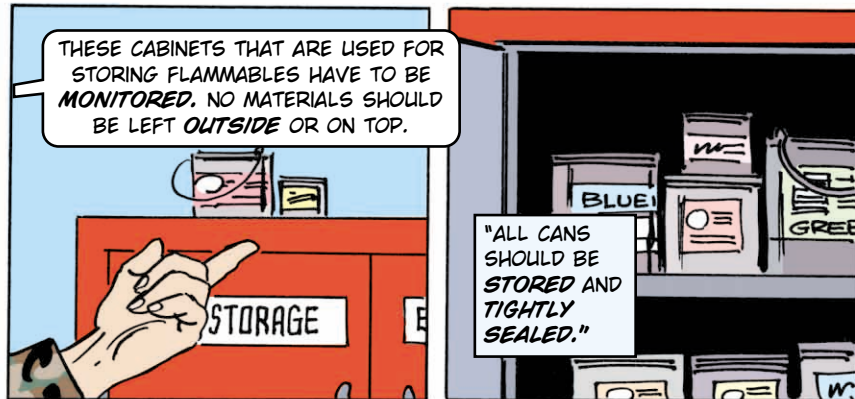




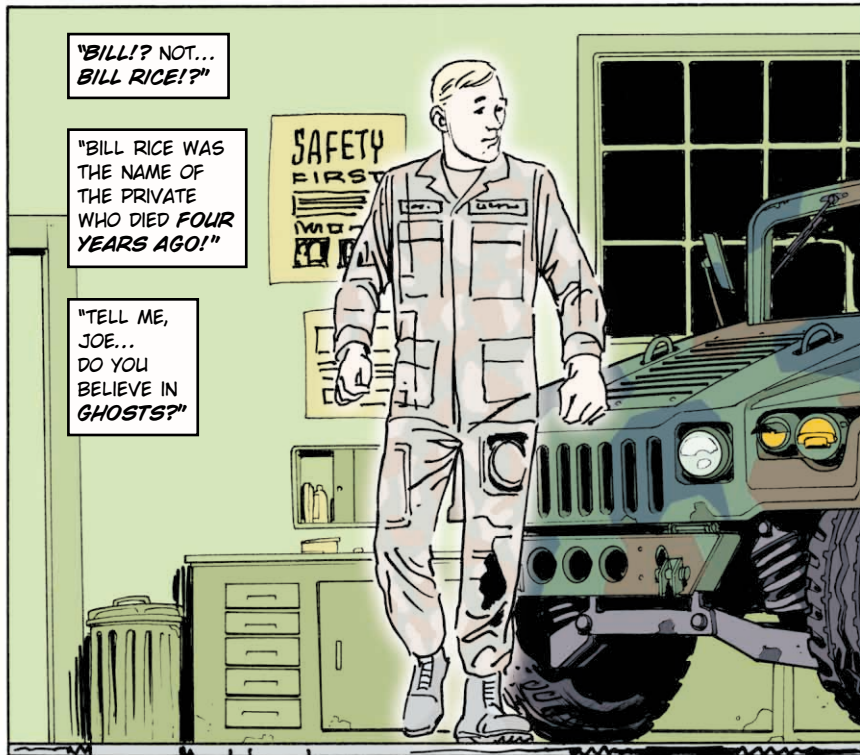
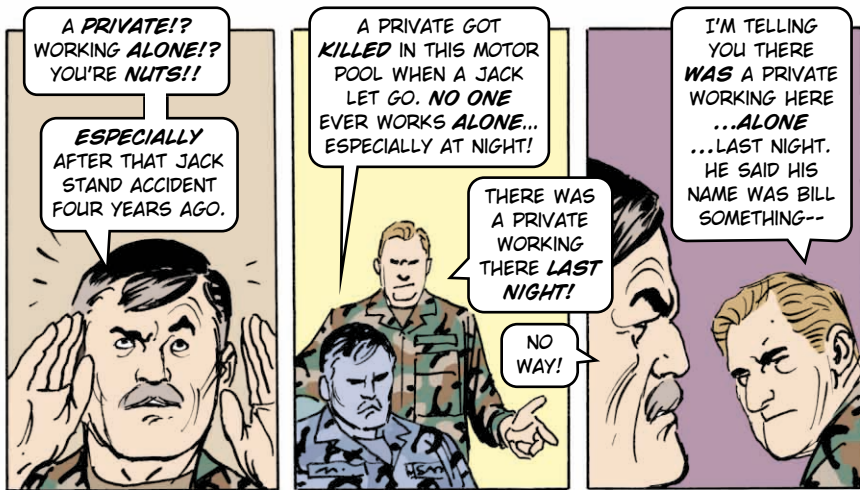




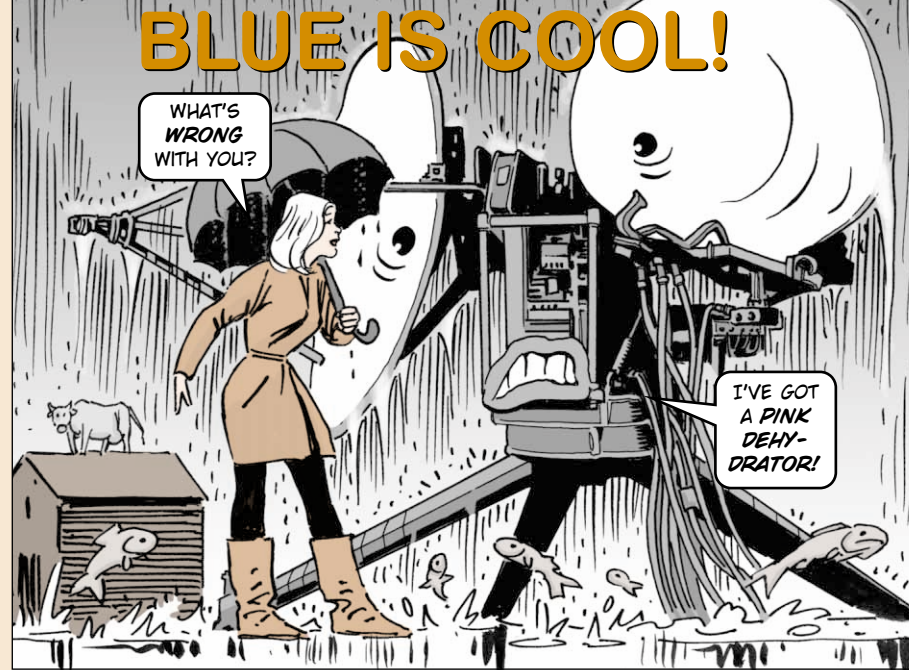








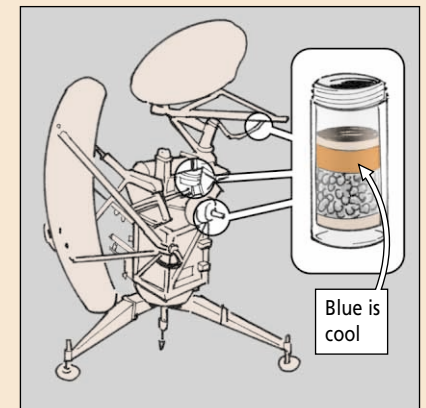
Air Traffic Control...



Water can quickly shut down your AN/TPN-18/18A radar sets by blowing out their electrical circuits. That includes the magnetron tube, NSN 5960-01-046-4482, that is the heart of the radar system.

Waveguide dehydrators absorb moisture, preventing corrosion and shorts inside the waveguides. That's why it's so important to eyeball the color of the three wave-guide dehydrators, NSN 4440-01-093-2831, during your weekly PMCS. Blue is cool. If a dehydrator is pink, change it. If your -18A has a pink dehydrator, it's NMC.

During wet or humid weather, check the dehydrators daily. A new magnetron tube costs about \$3,600. One dehydrator goes for \$10, so it only costs \$30 to replace all three of them.





## Pack, Store, Unpack and Move Right

YOU'RE  
PACKED  
AND READY  
TO ROLL!

THANKS FOR  
NOT DOING A  
BANG-UP JOB,  
PACKING UP.

Air traffic controllers, don't do a bang-up job packing, storing, unpacking and moving your trailer-mounted AN/TPN-18A radar, especially on its antennas, drives and components—or your back.

Those radar components are heavy and easy to damage if they're not handled properly. They're heavy enough to damage you, too.

So follow the packing, unpacking and storage info in Chap 4 of TM 11-5895-474-12-1.

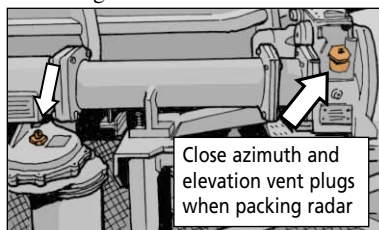
For sure, get three buddies to help you lift the azimuth and elevation antennas. Without a lifting device, it's a four-man job.

Never leave parts lying on the ground. Always secure them to the trailer. They're made of fiberglass and it's easy to accidentally punch holes in the dish.

If the antenna's damaged, your operations are shut down while broken parts go back to depot for repair.

Also make sure you don't bend the support arms or feed horns. They are calibrated and once they're out of alignment the radar is NMC.

While you're packing up the radar, remember to close the azimuth and elevation antenna drive vent plugs (red side up). That prevents condensation from forming inside the gearbox, which can contaminate oil and turn it into sludge.



When you're operating, the vent plugs should be turned green side up to allow the system to vent and to prevent pressure buildup that can blow out gearbox seals.

## KEEP STORAGE BAY DRY

HAVE YOU  
CHECKED THE  
LEFT AFT  
AVIONICS  
BAY, LATELY?

WELL,  
LET ME  
SEE...

Crew chiefs, MWO 1-1520-238-50-50 moved the AN/AVR-2A(V)1 laser detection comparator and the AN/APR-39A digital processor into the Apache's left aft storage bay (L295) to keep them dry. It worked on the AH-64D, but a water problem still exists on the AH-64A.

That's because on the A model the cable harnesses for those components are routed through holes at stations 285 and 305—now called the left aft avionics bay—which cannot be sealed. So rain water, wash water, condensation and even hydraulic fluid can enter the bay, following the cable bundles. It then leaks onto the avionics. Because the digital processor sits on the shelf, it allows water to wick in from underneath.

Change 1 to the MWO will raise the processor off the shelf to keep water from getting underneath.

But until the headshed comes up with a permanent fix for the leaky bay, take extra care not to direct water at the ventilation holes which help cool the avionics bay. Then inspect the bay for water and corrosion after you wash your bird or fly in the rain. Mop up any liquid on the avionics and the mounting area with a clean cloth and treat any corrosion you find.



# Heads Up on Helmet Care!



**F**lying along at 3,000 feet is no time to worry about the condition of your HGU-56/P aircrew integrated helmet system (AIHS). Do that when you're safely on the ground.

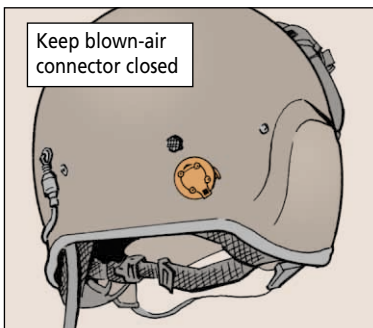
## Helmet

The connector assembly on the right rear of the helmet shell was designed for future additions of a blown-air head cooling system and a visor defogging system. But it needs PM now.

The connector has a hinged dust cover that is secured by a thin hook-and-pile patch. If you leave the cover open, dust gets in the helmet or the patch gets torn. Either way, dust will irritate your eyes and nose. That's not good while flying.

So keep the connector covered. If the patch gets damaged, let your ALSE shop know.

If your helmet uses the communications earplug (CEP), never remove the cable from the back of the helmet with a twisting motion. That could loosen the locknut on the backside of the connector, and allow the connector to turn. If that happens, the soldered wires behind the connector assembly can come loose and short out.



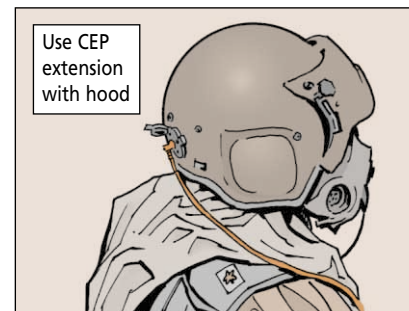
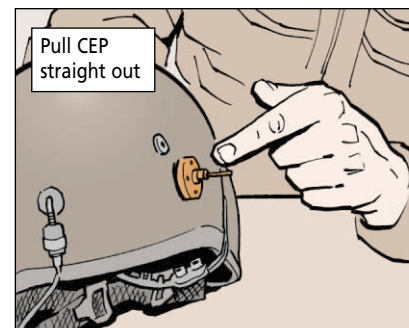
So remove the CEP by pulling it straight out of the connector.

If you use the CEP with the M45 mask, you should use the CEP's 24-in extension cable. The longer cable lets you connect to the helmet without interfering with the hood.



**YOU CAN GET THE CEP EXTENSION, PN CEP199-X01, FROM THE MANUFACTURER FOR \$14 EACH. CONTACT...**

Communications & Ear Protection, Inc  
PO Box 311174  
Enterprise, AL 36331-1174  
**Telephone:** (334) 347-1688  
**Fax** (334) 347-4306  
**E-mail:** [bmozo@cep-usa.com](mailto:bmozo@cep-usa.com)  
**Website:** <http://www.cep-usa.com>





## Microphone and Boom

When you're done with the microphone and boom, don't just shove them up into the helmet liner. Store them along the side of the helmet.

When you shove the assembly up, the mike dings the liner. Any dings or gouges ¼ inch deep in the front of the liner make the helmet NMC. Then ALSE has to replace the whole liner.

The microphone is held onto the boom with a thumbscrew. Hand tight is good enough to keep it secure. If you overtighten the thumbscrew, you'll break the mike and boom. Then you'll have a flapping mike, and you sure can't fly with one hand holding the mike and the other on the flight controls.

Dirt and sand buildup can jam the helmet's two visors in their tracks. If they start to stick, don't get heavy-handed and pull on the right and left actuating knobs. You'll probably break the knobs or dislodge them from the visor's tracks. Let your ALSE shop know if the visors start to stick.



Go easy, ALSE techs, when you work on the visor tracks and the attaching thumbscrews. They are delicate and you can easily strip the nut plate. Clean the tracks like it says in Para 3-3 of TM 1-8415-216-12&P.



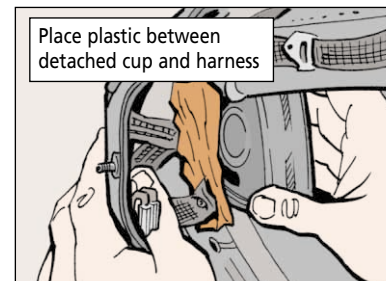
## Fitting Your Helmet

If you have problems positioning the ear cups so they align properly, try this:

Place a plastic sandwich bag between each of the detached ear cups and the harness. That keeps the hook-and-pile from fastening together.

Next, hold the ear cups and plastic bag in place and fit the helmet on your head. You'll have to work the helmet and the ear cup a little to make it fit properly.

Finally, when the helmet is centered on your head, and the cups fit your ears, slowly pull out the plastic bags, one at a time, while holding the ear cup in place. The hook-and-pile will fasten and hold the cups in the right position.



## Putting It On

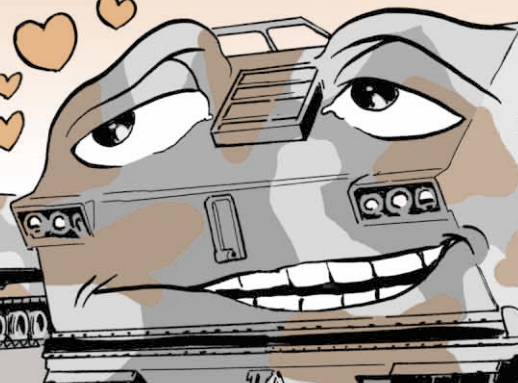
If you spread the helmet too much when putting it on, you'll weaken it, and that can lead to cracks.

1. Hook your thumbs over the ear cups and spread the helmet just slightly.
2. Place the front edge of the helmet firmly against the forehead.
3. Rotate the helmet rearward and down onto your head.
4. Press the helmet down firmly with both hands.
5. Adjust the nape. When adjusting the nape straps, do not pull on both straps simultaneously. Pull on one and then the other in a see-saw motion for a snugger fit.
6. Adjust the chin straps.

HERE'S HOW TO PUT ON THE HELMET...



# Gimme Some Good Lubin'



I JUST LOVE  
THE WAY YOU  
CLEANED AND  
LUBED MY  
ROLLERS!

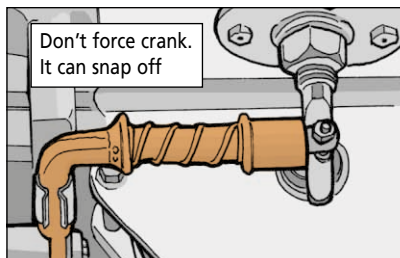
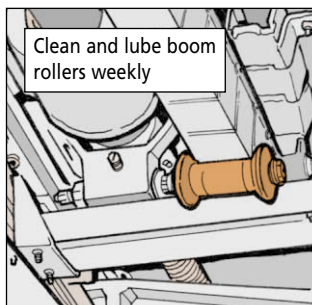
NOW I CAN  
HANDLE  
ANYTHING!

**G**ood lubing is what some parts of the MLRS launcher need on a weekly basis to prevent expensive damage.

**Boom rollers**—If the rollers aren't cleaned and lubed weekly in the field, they develop flat spots that can damage the W75 and W76 cables and crack the screws that hold the end beam mounting brackets.

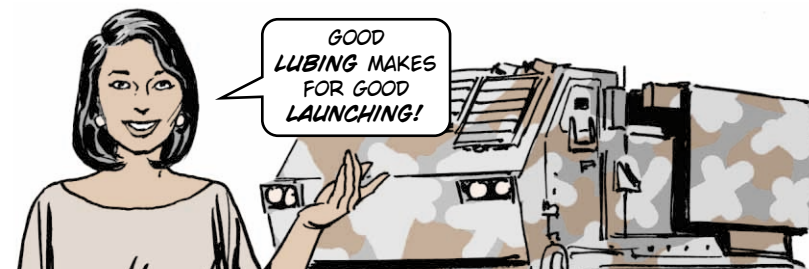
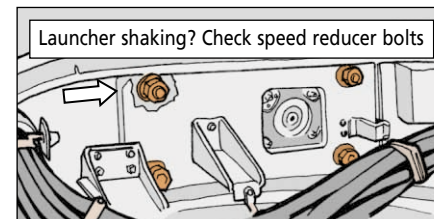
So, clean the rollers weekly with lubricant cleaner, NSN 9150-01-054-6453. Then clean off the cleaner with dry cleaning solvent. After the solvent dries, apply dry lubricant, NSN 9150-01-443-9003. The complete procedure is spelled out in Para 3-9(b) in TM 9-1425-648-13&P.

**LLM hoist pulley crank**—If the crank is frozen with rust, the MLRS can't be adjusted for different rockets. Use dry lubricant on it, too, and exercise the crank handle to work the lube in the handle bearing and hinge pin. If the handle doesn't want to turn, don't force it. The aluminum handle can snap right off. Tell your repairman.



**Azimuth geared bearing**—If the bearing's old grease isn't cleaned out every 12 months by your repairman before new grease is applied, it can harden and make it hard for the launcher to move. The cleaning procedure is item 2b in the PMCS Quarterly Service in TM 9-1425-648-13&P.

If you get shaking as you move the launcher, check the four bolts that hold the azimuth speed reducer in place. Loose, broken or missing bolts are one of several possible causes of shaky azimuth movement. Report bolt problems immediately.





# Wrap the Remote

HERE'S THAT GARDEN HOSE YOU ORDERED. GOT SOME CLEANING IN MIND?

THANKS, BUT I ONLY NEED ABOUT 8 INCHES TO PROTECT THE BOOM MANUAL CONTROL REMOTE CABLE.

Dear Editor,

Constant flexing and bending of the W18P2 cable on the MLRS launcher's boom manual control remote eventually wears out the insulation. Next comes damage to the wiring inside the cable and soon the remote is kaput.

Flexing damages insulation

2. Cut the hose lengthwise and wrap it around the W18P2 cable.

Wrap hose around cable

3. Hold the hose in place by wrapping it with duct tape. NSN 7510-00-890-9872 gets a 60-yd roll of tape.

Hold hose in place with duct tape

Here's how we stop that damage before it gets a chance to start:

1. Cut off a 6-in to 8-in piece of 5/8-in diameter garden hose. If you don't have a hose handy, get a 50-ft hose with NSN 4720-01-447-8759. Order it on a DD Form 1348-6 and put "NSN not on AMDF" in the REMARKS block.

The hose keeps the W18P2 cable from flexing and wearing out so fast.

SGT Jason Graning  
6/32d FA  
Ft Sill, OK

From the desk  
of the Editor

Looks like you've wrapped up that problem nicely!

Avenger Missile System...

## CUSHION YOUR BUDGET

Dear Editor,

When the hook-and-pile tape on the back of the Avenger's seat cushions wears out, the cushions won't stay in place. Most units solve that problem by ordering new cushions, but they cost hundreds of dollars.

And it's unnecessary. If you just replace the hook-and-pile, the cushion is usable. Your canvas shop can replace the hook-and-pile for you or you can do it yourself.

Your MILES unit will have hook-and-pile or you can order some with NSN 8315-01-334-9519. Carefully peel off the old hook-and-pile tape and use it as a guide to cut out the new pieces.

Glue on the new pieces on the seat cushion with adhesive, NSN 8040-01-391-9970. The back cushion will need the hook-and-pile sewed on by your canvas shop.

SGT Arthur Turner  
3/62d ADA  
Ft Drum, NY

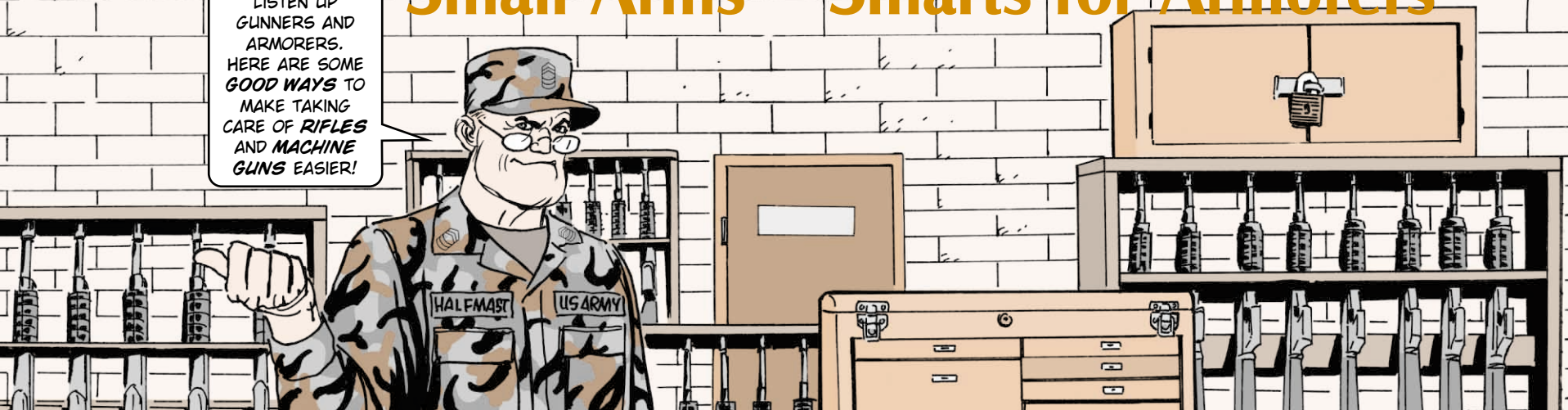
Replace hook-and-pile to keep cushion in place

From the desk  
of the Editor

I think you've got an idea we can stick with. Good job!

# Small Arms Smarts for Armorers

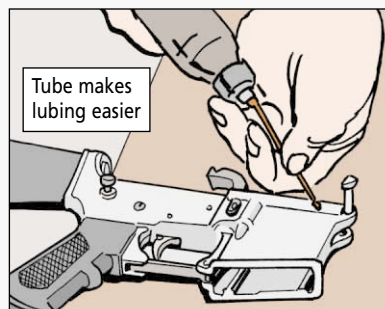
LISTEN UP  
GUNNERS AND  
ARMORERS.  
HERE ARE SOME  
**GOOD WAYS** TO  
MAKE TAKING  
CARE OF **RIFLES**  
AND **MACHINE**  
**GUNS** EASIER!



Dear Editor,

Through years of working with small arms, we've come up with a few suggestions that will help gunners and armorers:

✦ Keep the little tube that comes with the CLP bottle. Attach the tube to the bottle to reach hard-to-lube places. Keep the tube taped to the bottle when you're not using it.



✦ Your support can make a front sight adjustment tool for the M16 rifle with the fabrication plans on Page E-2 in TM 9-1005-319-23&P. But we've found it's cheaper just to buy them locally at your gun shop or an Army surplus store.

Get sight  
adjustment  
tool for all  
riflemen



Every rifleman should have the tool. If you use something like a nail to adjust the front sight, eventually the sight will be damaged enough that it can't be adjusted.

✦ If you have trouble cleaning out carbon with CLP, use rifle bore cleaner (RBC). It's a stronger cleaner than CLP. But remember to wipe off the RBC and lube with CLP after you're through cleaning. RBC is not a lubricant.

RBC is better for  
tough cleaning jobs



✦ For cleaning and lubing your weapon, a 2-in paint brush works better than a rag. The brush makes it easier to clean inside places like the magazine well and the trigger assembly. The brush also spreads lube more evenly and doesn't smear it on. You can local purchase a brush or order one with NSN 8020-00-245-4522.



Chuck Dieman  
Andy Free  
John Maben  
Directorate of Logistics  
Fort Leonard Wood, MO





# Clean Then Touch Up



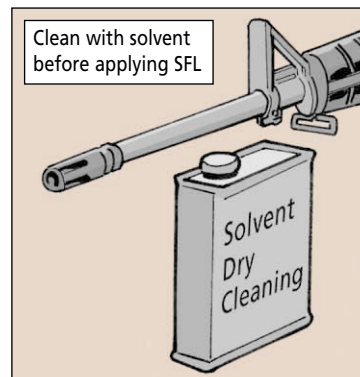
**S**olid film lubricant (SFL) does a great job of touching up spots on your rifles and machine guns where the finish has worn off. SFL stops corrosion before it starts and erases shiny spots that can signal your position to the enemy.

But SFL does no good unless you clean shiny spots with dry cleaning solvent **before** touching them up with SFL. Unless you clean with solvent, you can't get rid of all lube in the weapon's metal. Lubricant prevents SFL from doing its job and soon you've got a bare spot again.

## M2 Machine Gun Only

SFL can be used to refinish as much as a third of the M2 receiver. If more than one-third needs to be refinished, the M2 needs to go to depot. This criteria will be added to the next update of TM 9-1005-213-23&P.

The exception is the barrel. If you're **not** part of a rapid deployment or divisional combat unit, the whole barrel can be touched up with SFL. If you **are** part of that kind of unit, no more than one-half of the barrel can be touched up.



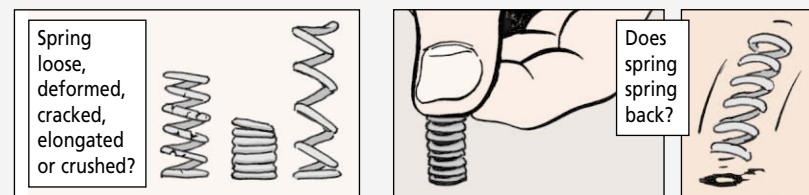
# Steer Clear of Bad Sear Spring

**A** bad sear spring stops your M2 machine gun in its tracks, as in no shooting. But just two quick checks weed out bad springs.

To get at the sear spring, depress the sear and remove the sear slide. Remove the sear and sear spring.

**Check 1:** Is either end of the spring deformed, or does it fit loosely in the sear or bolt?

**Check 2:** Is the spring cracked, broken, collapsed, or elongated? Set the spring upright on a flat surface and push it down. If it doesn't spring back to its full position, it's a bummer.



If you spot any of these problems, get a new sear spring from your armorer.

M2, M3, M296 Machine Guns...

# EYES DON'T HAVE IT

**L**ooks can be deceiving. Just because the headspace and timing gauges for the M2, M3, or M296 machine guns don't have obvious problems like pitting, rust, or bent parts doesn't always mean they're ready for action.

Some of those gauges have been in service for years and are just plain worn out. There's no calibration requirement for the gauges, so you can't tell if they're OK just by looking. A bad gauge gives a bad reading for your machine gun. That could lead to poor firing or no firing.

If you have doubts about a gauge, have it sent to TMDE for calibration. Then you'll know for sure. Calibration procedures are in the calibration pub, TB 43-180.

If you need new headspace and timing gauges, NSN 5220-00-535-1217 gets both.

If you have doubts about gauge accuracy, get support to check it



# EW SIGHT SAVERS FOR RIFLES EW 3WME3WEM

IT'S NO  
USE, DOC.  
I CAN'T SEE  
A THING.

THIS IS  
**TERRIBLE!**  
NO ONE HAS  
DONE PM!

DIRT AND  
CORROSION  
CAN MAKE IT  
IMPOSSIBLE TO  
ADJUST THE  
SIGHT ON YOUR  
M16 RIFLE OR  
M4 CARBINE.

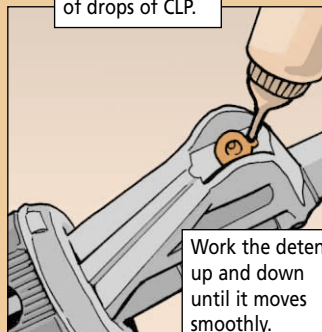
THEN YOUR CHANCE  
OF HITTING THE TARGET  
BECOMES ABOUT THE  
SAME AS WINNING  
THE LOTTERY.

So always remember  
the front and rear  
sights when you  
clean your rifle.

Use a toothbrush to  
clean away dirt from  
both sights. Get into  
all the crevices.

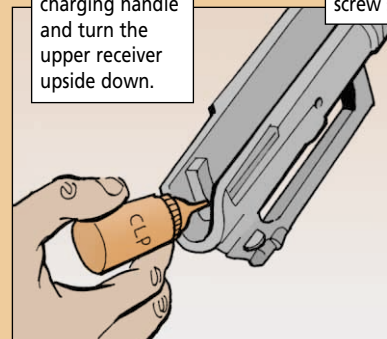


Depress the front  
sight detent and  
give it a couple  
of drops of CLP.



Work the detent  
up and down  
until it moves  
smoothly.

Remove the  
charging handle  
and turn the  
upper receiver  
upside down.

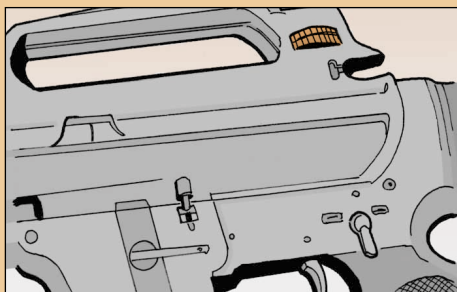


Put a few drops of lube on the bottom of the elevation  
screw shaft and in the detent spring hole.

With the receiver still upside down, move  
the elevation knob back and forth several  
times to work in the lube. Then return  
the elevation knob to its original position.

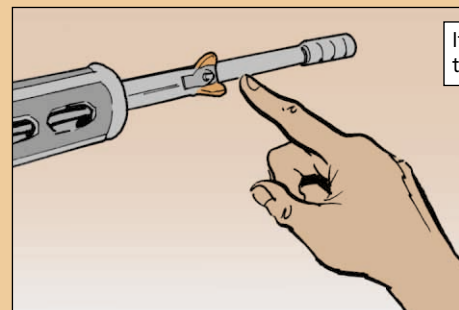
It's very important to wipe off both  
sights when you're finished.  
Otherwise, lube will attract dirt and your  
sight will be in worse shape than before.

Squirt a couple of drops of CLP on  
all of the rear sight's moving parts.



Rotate the windage knob  
five clicks and the elevation  
knobs completely around to  
work all the lube in.

Return the windage knob  
to its original position.



If the sights are still difficult to adjust,  
they need to be taken apart and cleaned.

Your armorer can handle the  
front sight. The rear sight goes  
to direct support. If you force  
the sights, they will be damaged.

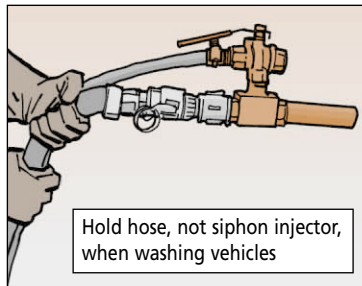
Tell your armorer if the front sight  
guards are bent. Support has a tool  
that can straighten the guards.



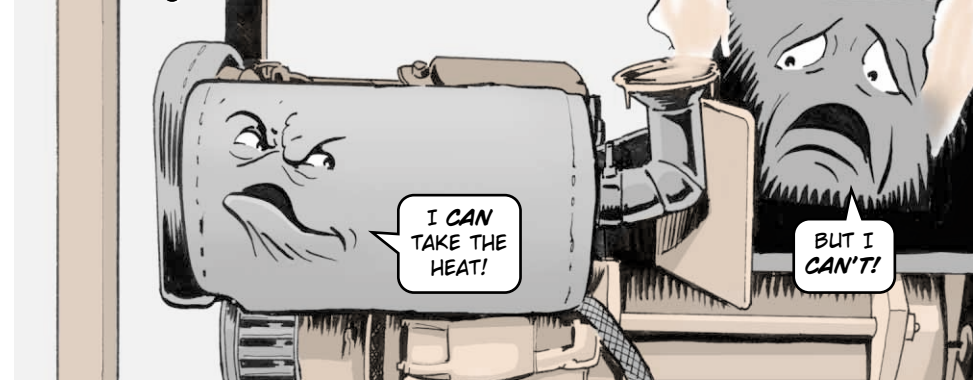
# BETTER SAFE



- No fewer than four people should carry the M17, which weighs 360 pounds. When loading it on a truck, use eight people. You'll be wearing a back brace if you try to transport or lift it with fewer.
- Never operate the M17 from the back of a truck. That puts the decon's exhaust at eye level where it can do serious damage to an unsuspecting soldier. Operate the M17 only on the ground.
- Never run the M17 indoors unless you have an exhaust hose that carries the carbon monoxide exhaust well outside. The M17's exhaust can quickly poison the air in a closed motor pool bay.
- When using the M17 to wash vehicles, hold the hose, not the siphon injector, while spraying. The injector gets real hot and can burn your hand, even if you're wearing gloves.



# Spark Arrestor PM

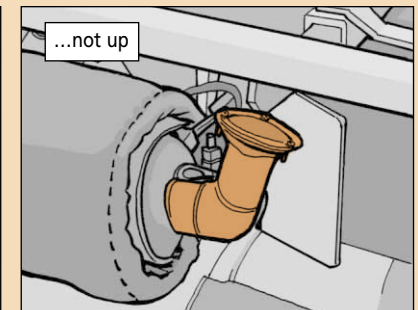
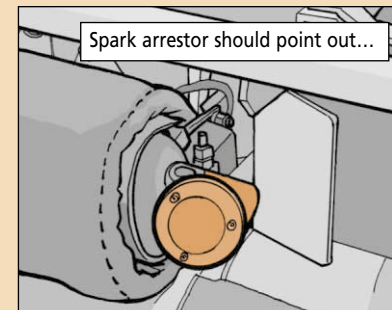


A hard-starting MEP-531A or MEP-501A 2-KW generator means it's time to clean the spark arrestor and diffuser discs. The TM is being changed to require that the spark arrestor and its diffuser discs be cleaned after 50 hours of operation instead of after 100 hours. But until the TM is revised, clean the arrestor and its discs as needed.

Take the arrestor apart and clean the discs with an approved cleaning solvent and a wire brush. Clean the entire arrestor, including the end cap.

When you put the arrestor back on the exhaust pipe, make sure you mount it with the spark arrestor pointing to the side of the generator. That way, a metal plate deflects exhaust heat from the gas tank.

The wrong mount leaves the arrestor pointing straight up. That lets too much exhaust hit the corner of the plastic fuel tank. Take our word for it—you don't want that much hot air blasting your fuel tank.



# TAKING A BAD STEP

HEY...  
YOU'RE  
GONNA  
BREAK  
MY BACK!

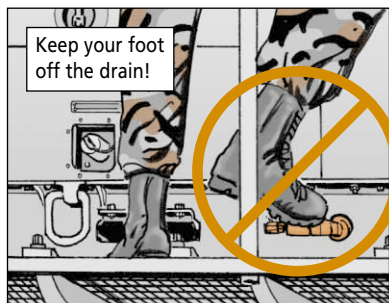


The skid-mounted 60-KW tactical quiet generator (TQG) is suffering under the weight of some big-foot abuse.

Located right in the middle of the left-side skid is the fuel drain. If you need to look on top of the generator or over it, that fuel drain seems like the perfect place to step. But the drain was never meant to take on that kind of weight. You'll bend or break the pipe and bust off the T-valve.

Sure, you might get away with it a few times—maybe you already have—but eventually something is going to snap. Then you'll have a dangerous mess on your hands and a piece of equipment that is NMC.

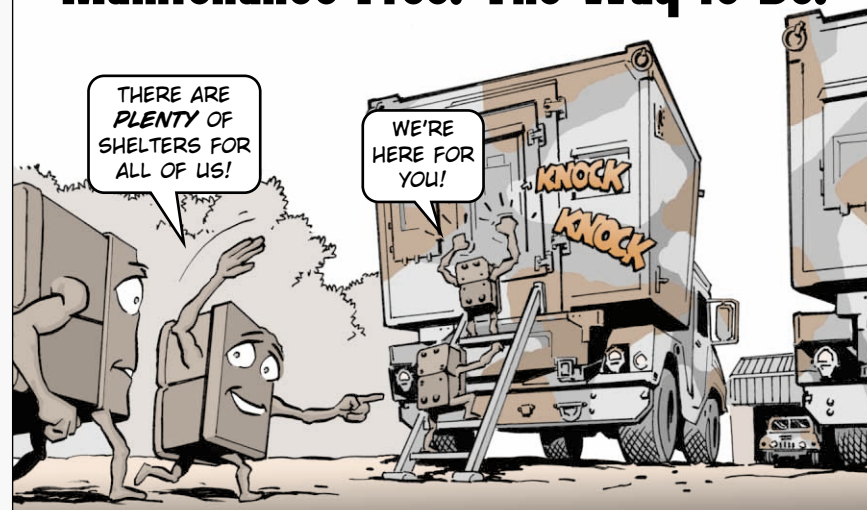
So keep your big foot off the fuel drain. And put your big paw on the shoulder of your pals that you see doing it and give them the word, too.



# Maintenance Free! The Way to Be!

THERE ARE  
PLENTY OF  
SHELTERS FOR  
ALL OF US!

WE'RE  
HERE  
FOR YOU!



Some of you MSE shelter operators are holding on to the old 2HN lead-acid back-up batteries, NSN 6140-00-057-2553, like they were gold bars. Replace them **now** with sealed, maintenance-free batteries, NSN 6140-01-446-9554.

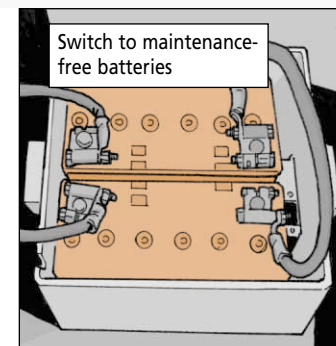
The old non-sealed, lead-acid batteries...

**...are difficult to maintain.** Checking and filling the batteries requires partial disassembly of the shelter power bay. Over-filling the batteries can lead to electrolyte overflow. That acid runs down into the battery box, corroding the box and vent fan assembly.

**...vent hydrogen.** When the “equalize-charge” mode is used to quick-charge batteries, they’re often overcharged. That boils the electrolyte, releasing large quantities of hydrogen gas.

Maintenance-free, sealed batteries **last 20% longer, operate safely in a wider temperature range (from -22° to +122°F), and can be deeply discharged for many cycles.**

You can make the switch now, if your old batteries need replacing. Change both batteries in the shelter at the same time to get the best results.





# ON THE MOVE AND PARKED

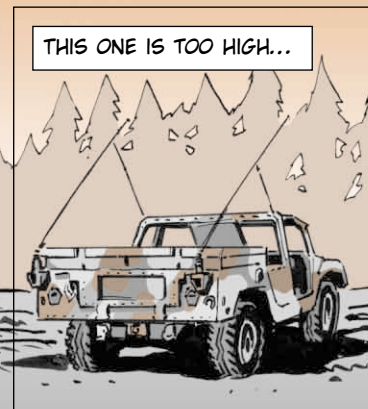
WHEN CONNIE WENT FOR A WALK SHE SPOTTED **LOTS** OF TIED DOWN ANTENNAS ON MOVING VEHICLES...



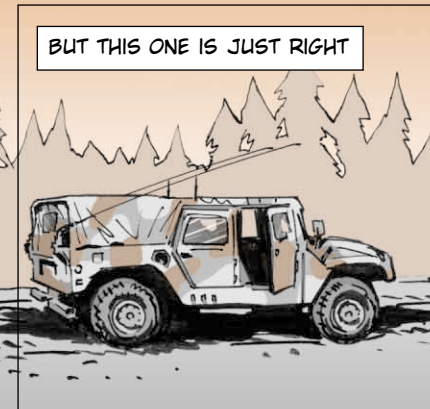
THIS ONE IS TOO LOW...



THIS ONE IS TOO HIGH...



BUT THIS ONE IS JUST RIGHT



Hey, vehicle operators, some safety people are not too happy with some of you. Seems they've spotted a whole lot of vehicular antennas waving in the wind as you cruise around post. Tying down your antennas to keep them from striking a power line or an overhead bridge is the only safe way to go.

The maintenance folks are not too happy with some of you, either. Seems they have spotted a whole lot of vehicular antennas tied down while the vehicle is parked overnight in the motor pool. That unnecessary stress on the base spring weakens it. Also, an upright antenna keeps the base spring coils close together, which helps keep out moisture and dirt.

When safety calls for your antenna to be tied down, do it right.

Tie down the antenna at a 45°-60° angle to the ground. That's low enough to avoid collisions with most overhead obstacles, but not so low that you risk cracking antenna sections or the base.

Attach the antenna clip midway between the tip and the base. Too far forward and you'll bow the antenna. Too far back and you won't get the right angle.

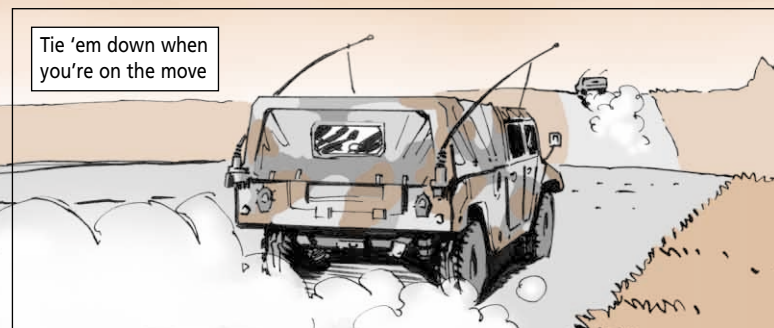
If your vehicle has more than one antenna, tie them down alongside the vehicle. Never cross them. If you do, the transmitting antenna will feed its signal to the one it's touching. You'll get interference and maybe even do damage to your radio's circuits.

Get a tiedown kit for your AS-3900 antenna with NSN 4020-01-341-8795. NSN 4020-00-908-6416 brings a tiedown kit for the AS-1729 antenna.

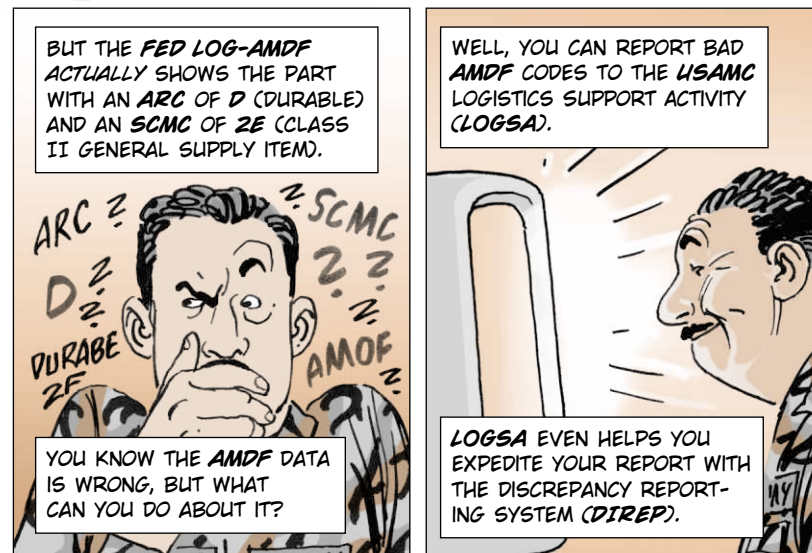
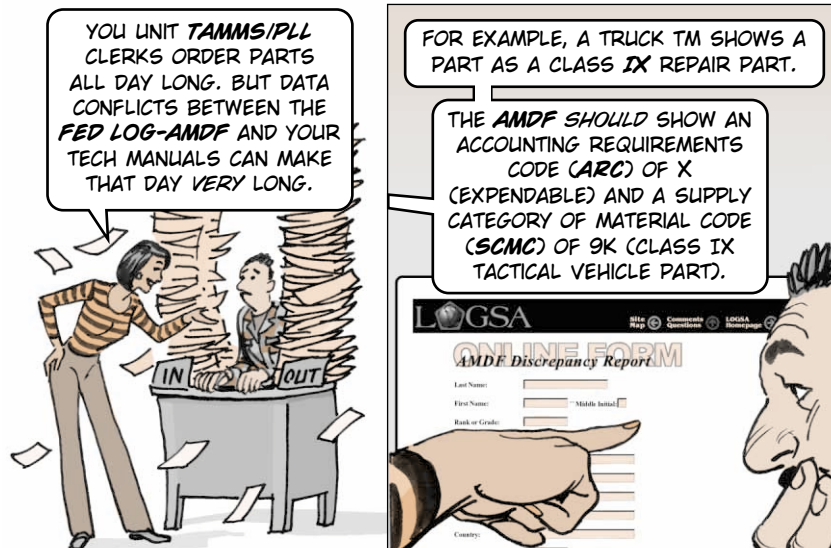
Let them stand tall in the motor pool



Tie 'em down when you're on the move



# Challenge Bad AMDF Data



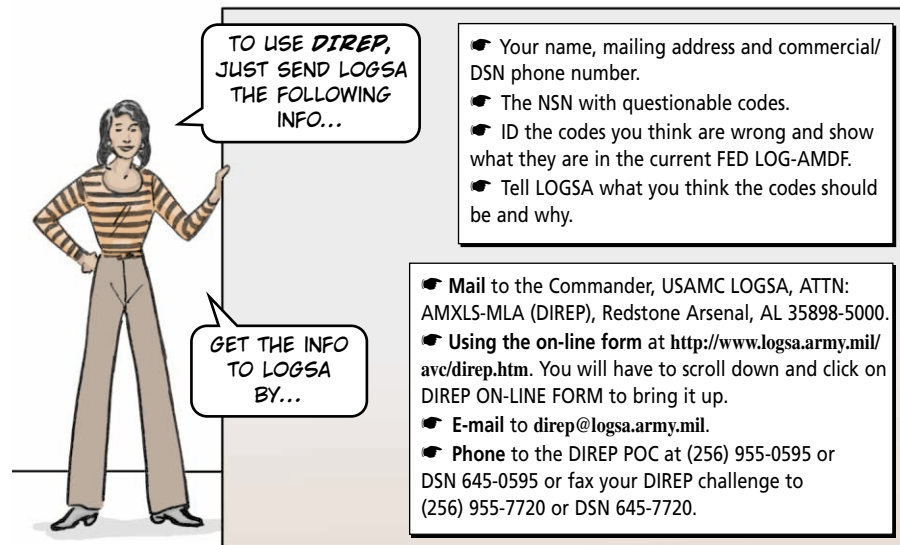
PS 585

58

AUG 01

**DIREP** TELLS YOU WHAT IT NEEDS FROM YOU TO CHALLENGE BAD CODES, KEEPS YOU INFORMED WITH MONTHLY REPORTS AND ONLY CLOSES THE CHALLENGE WHEN A FINAL SOLUTION IS SENT TO YOU.

**DIREP** LETS YOU CHALLENGE EVERY **FED LOG-AMDF** DATA ELEMENT EXCEPT FOR THE UNIT PRICE, LINE ITEM NUMBER (**LIN**) AND DEMILITARIZATION CODE (**DML**).

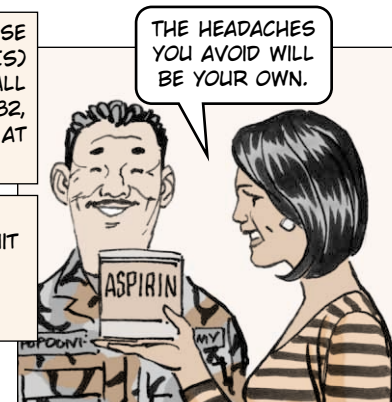


Unit price challenges must be submitted on-line at <http://weblog.logsa.army.mil/problemsolver/pricech.cfm>.

LIN challenges must be reported by e-mail to [sb70020@logsa.army.mil](mailto:sb70020@logsa.army.mil).

**DML CODE CHALLENGES** GO TO THE DEFENSE LOGISTICS INFORMATION SERVICE (**DLIS**) **DML CODING MANAGEMENT OFFICE**. CALL THEM AT (616) 961-4282, DSN 932-4282, E-MAIL [DCMO@dlis.dla.mil](mailto:DCMO@dlis.dla.mil), OR ON-LINE AT [http://www.dlis.dla.mil/demil\\_request.htm](http://www.dlis.dla.mil/demil_request.htm).

IF YOU USE THE **AMDF** EVERY DAY, THEN YOU KNOW THAT **AMDF** CODES AFFECT UNIT MAINTENANCE AND SUPPLY OPERATIONS. SO, WHEN YOU FIND BAD CODES IN THE **FED LOG-AMDF**, CHALLENGE THEM.



PS 585

59



# Going AEPS?



**T**he Army Electronic Product Support (AEPS) network gives you fast access to supply and maintenance info.

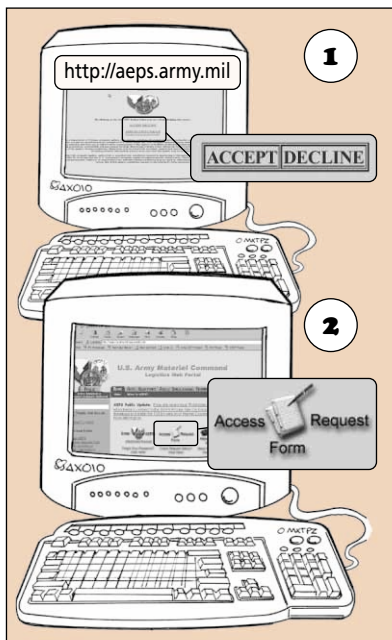
But just what is AEPS?

AEPS, <http://aeps.army.mil/>, provides the alerts and messages you need to operate safely and trouble-free: ground precautionary, maintenance advisory, safety of use, safety advisory, and safety of flight.

AEPS also lets you check out equipment MWOs and submit on-line quality deficiency reports (QDR) and DA Form 2028s—changes to equipment pubs. You can even track the status of parts shipments.

To get started today, go to the AEPS website, click on the **ACCEPT** button, then the **Access Request Form**. Follow the instructions and your AEPS access will begin when you get your user id.

Got questions? Call AEPS at DSN 793-0699 or (888) LOG-HELP (564-4357) or e-mail [postmaster@aeps2.ria.army.mil](mailto:postmaster@aeps2.ria.army.mil).



## JP-8+100 Is a No-Go

Make no mistake about it. The Army has a "no-use" policy for its aircraft and ground vehicles when it comes to the JP-8+100 fuel additive used by the Air Force. Our article on Pages 38-39 of PS 578 seems to have raised some doubt. All the details are in DA Msg DALO-ZA R141139Z Apr 00. Read the message on the Internet at <http://usapc.army.mil>. Click on **MESSAGES**, then **USAPC Petroleum Technical Advisory Messages**. Select: Policy Message - JP-8 +100.

## M4 CARBINE ADAPTER BAR

Page 42 in PS 581 gave you a bum steer on the NSN for the bar stock your support will need in order to fabricate an adapter bar for storing M4 carbines in the M12 rack. The correct NSN is 9520-00-277-4902.

## M291 DECON Kit CORRECTION

Page 44 of PS 580 listed the wrong NSN for the M291 decon kit. The correct NSN is NSN 6850-01-276-1905.

## DRIP PAN PAD REVISITED

You'll get odd size absorbent pads for your combat vehicle's drip pan if you use the NSN listed on Page 61 of PS 578. Use NSN 4235-01-379-8388 to get the four 32x17-in pads you need. NSN 4235-01-423-1463 brings a box of 30 18x18-in pads.

### DISTRIBUTION:

To be distributed in accordance with the initial distribution number (IDN) 340312, requirements for TB 43-PS-Series

## M939 Truck Ring Mount

Page 6 in PS 578 steered you wrong on the correct machine gun ring mount for the M939-series 5-ton truck. After you install the cab reinforcement kit, NSN 2590-01-436-9144, install the lightweight ring mount, NSN 1005-01-432-3339, not the M66 ring mount, which won't fit.

## REPLACING AVENGER INSERTS

Page 38 of PS 579 said that using a bolt to clean out screw inserts on the Avenger missile system was a good idea. AMCOM now believes it would be better to use the ball reamer, NSN 3455-01-034-0355, that's part of the Avenger repairman's tool kit. That same story also said that if the epoxy for the inserts doesn't harden in 24 hours, to wait another 24 hours for it to harden. AMCOM now says that if the epoxy isn't hard enough after 24 hours you need to start from scratch with new epoxy.

## Tan Tarp for Tracks

NSN 2540-01-330-8062 gets a 12x17-ft tan tarp that fits over M1-series tanks, M2/M3-series Bradleys, M88A1/A2 recovery vehicles, M113-series carriers, and other vehicles.

**Would You Stake Your Life <sup>right now</sup> on the Condition of Your Equipment?**